Volunteer Firemen

OCTOBER

1945

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston 10, Massachusetts

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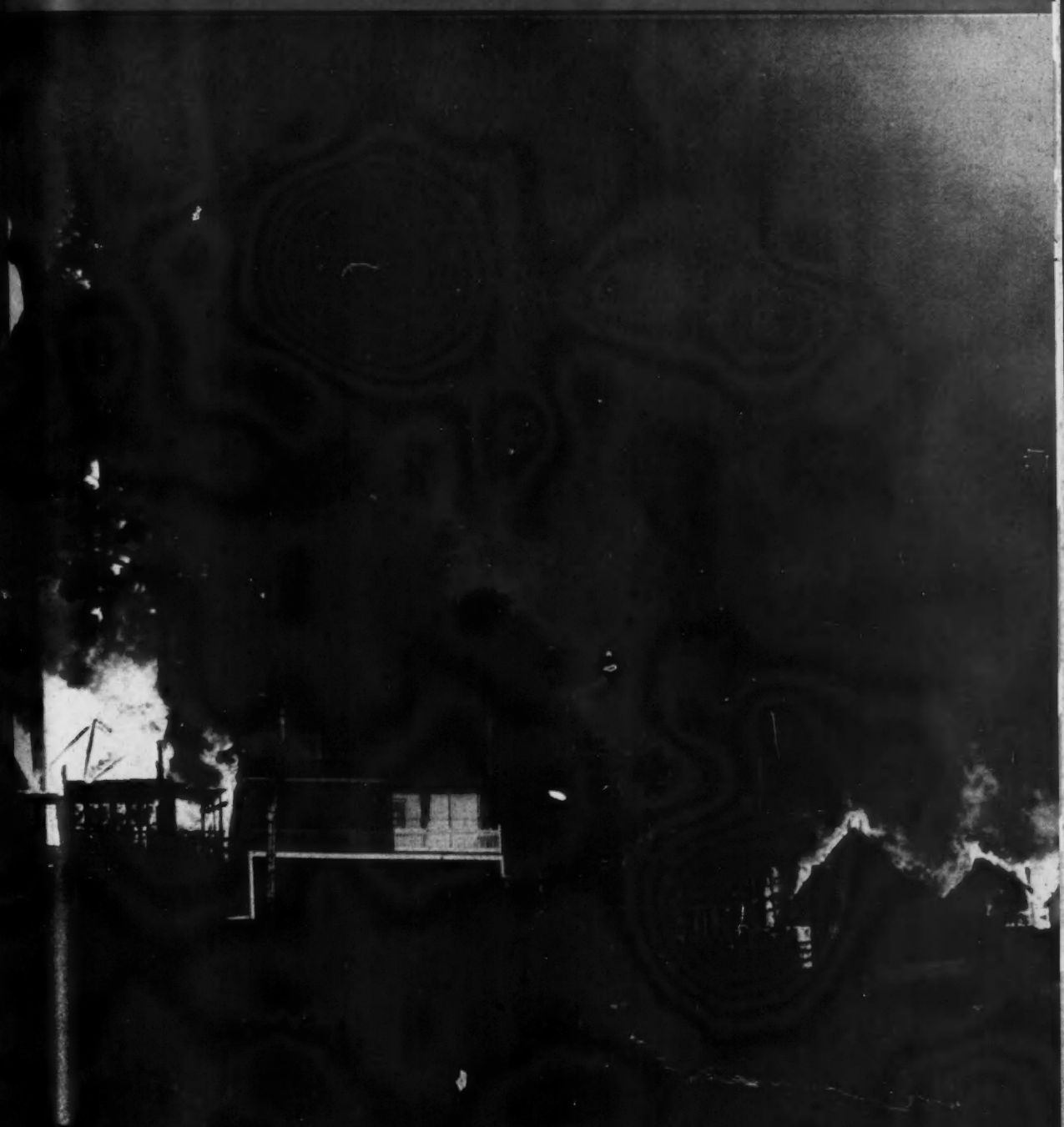
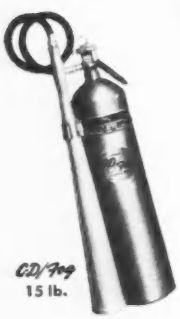


HE CAN CHOP WOOD

BUT CAN HE TRIM A CHOP?



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15 lb.

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Every fire extinguisher has its own job. No *one* extinguisher is equipped to fight *all* fires. Some are best for gasoline, others for electrical, still others for rubbish, paper, and wood.

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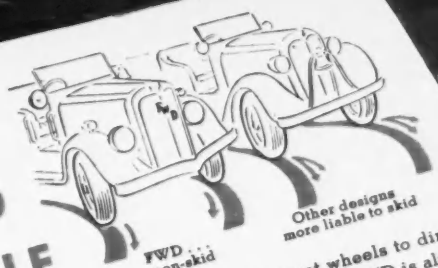
NO SLIP NO SKID NO SLUE



Four Wheel Drive powered steering traction holds front wheels to direction of turns. The propelling force to the front axle of the FWD is always in the same direction in which the truck is steered, minimizing skidding and giving more positive steering control. Skidding tests conducted on ice show 50% less skidding due to powered front axle alone.

WRITE FOR LITERATURE

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NO ROADS TOO TOUGH OR STEEP FOR FWDs

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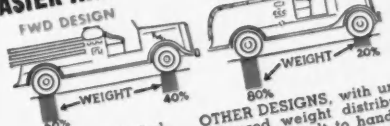
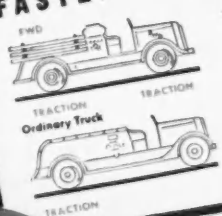


FWD DESIGN balances weight on all four wheels . . . assures easy handling at any speed.

OTHER DESIGNS, with unbalanced weight distribution are difficult to handle at high speeds.

FASTER GET-AWAY



FWD power on all four wheels gets a four-way grip on any road and assures faster get-away.

Other designs, lacking drive on front wheels, lose time in get-away.

QUICK, POSITIVE, SAFE EMERGENCY STOPS

FWDs have two separate and independent 4-wheel braking systems, with brake drums on each wheel. Combined with properly balanced weight distribution, these provide the most effective braking possible.

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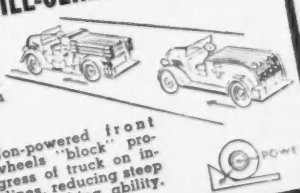


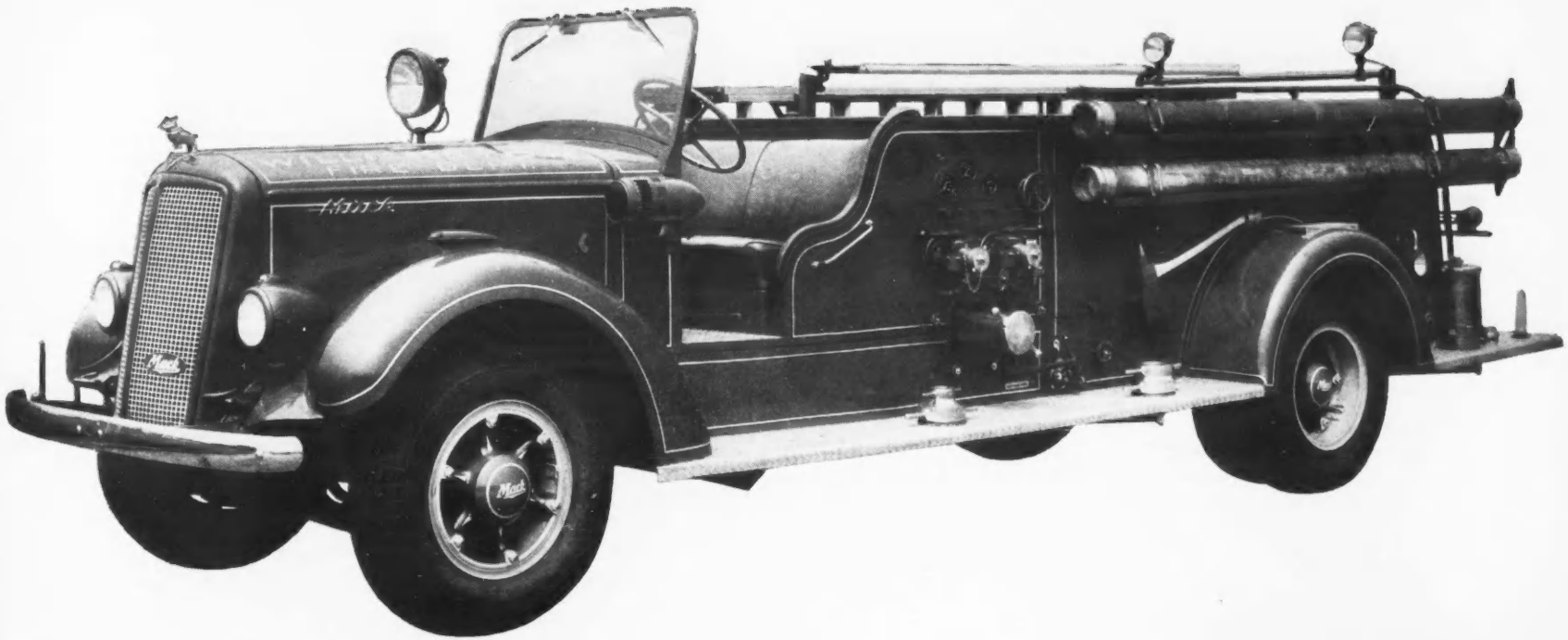
FWD's front wheel pulling power increases hill-climbing ability. Reserve traction in all 4 wheels.

Non-powered front wheels "block" progress of truck on inclines, reducing steep hill-climbing ability.

FWD

FOUR-WHEEL-DRIVE *Fire Apparatus*

GETS TO FIRES *FASTER* and SAFER!



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MACK MANUFACTURING CORPORATION, FIRE ENGINE DEPARTMENT,
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If your community needs additional fire-fighting equipment or replacements, think of Mack. Remember, Mack Fire Apparatus is backed by the greatest engineering resources in the industry.

PERFORMANCE COUNTS!

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PERFORMANCE COUNTS!

Volunteer Firemen

VOLUME 12 NUMBER 10

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ANNE BAILEY ASSOCIATE EDITOR
CHARLES S. MORGAN ADVERTISING MANAGER

PUBLISHED
NATIONAL FIRE PROTECTION ASSOCIATION
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A VOLUNTARY NON-PROFIT ORGANIZATION
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THE VOLUNTEER FIREMAN

MUCH of the confusion that dogged the OCD (Office of Civilian Defense) program from the days when its name brought a connotation of fan dancers has continued to jinx the program even following its official termination prior to July 1. The United States government is struggling with the problem of disposing of the vast amount of civilian air raid equipment purchased for the protection of seaboard communities and other industrial cities once considered as possible subjects of air raid attack. It just happens that the biggest part of this equipment consists of some 12,000, 500 g.p.m. pumping engines provided for the auxiliary fire service. At the present time these pumpers are being sold under the Surplus Property Division of the U. S. Department of Commerce. The official policy, a natural and perhaps laudable one, seems to be to get as much money back on this equipment as possible. The announced policy has been to sell the equipment on a "where is — as is" basis placing the burden of redistribution on any prospective purchaser.

Prices asked for the 500 g.p.m. pumpers, subject to certain discounts for wholesale quantities, are as follows: trailer pump with pump motor and accessories, $482.91; skid-mount pump with motor and accessories, $349.26; front-mount pump to be attached to a suitable truck, with accessories, $282.84.

Unfortunately the present sales policy does not appear to serve the desirable goal of promptly disposing of the equipment with a fair return to the U. S. Treasury and of giving all the volunteer fire services of the nation a fair and equitable opportunity to purchase such units as they may desire.

It should be pointed out that under the surplus property disposal law, U. S. government agencies have first call or priority on surplus property. Second option goes to state and local government agencies. This should include fire departments that are an agency of a municipal government. The third priority in purchase rights was granted specifically to volunteer fire departments by act of Congress.

However, as it works out, the volunteer fire departments have only been given a thirty-day option to exercise their priority before the equipment is gobbled up by contractors, etc. Even before a volunteer fire department has an opportunity to exercise its option, the local water works people (if under municipal control) may have filed application describing the nearest OCD pump as the particular unit they desire to purchase.

A more serious problem is the fact that if the regional office of the U. S. Department of Commerce does not happen to be in an area where OCD pumps were generously distributed during the war, there is little likelihood that the nearby volunteer fire departments will get a crack at one, unless they are willing to purchase, sight unseen, from some very distant point and be responsible for the freight.

Last December the Farm Fire Protection Committee of the N.F.P.A., together with the Agricultural Committee of the National Fire Waste Council, recommended a program of distribution for the OCD pumps that was believed would bring the greatest benefit to the country through the protection of rural areas and small communities. In many states there are hundreds of volunteer fire departments completely lacking pumping equipment or at best having pumping equipment of very small capacity, far below that of the 500 g.p.m. OCD pumps. The most important of the Committee's recommendations, thus far unheeded by official government policy, was as follows: "It should not be sold en masse to the highest bidder, *but should be rationed to the several states on a formula basis*, (equipment altered or mounted could remain in a state as a part of its quota). It should, in the main, be distributed to the farming areas to aid in reducing fire losses to food, feed and critical building materials."

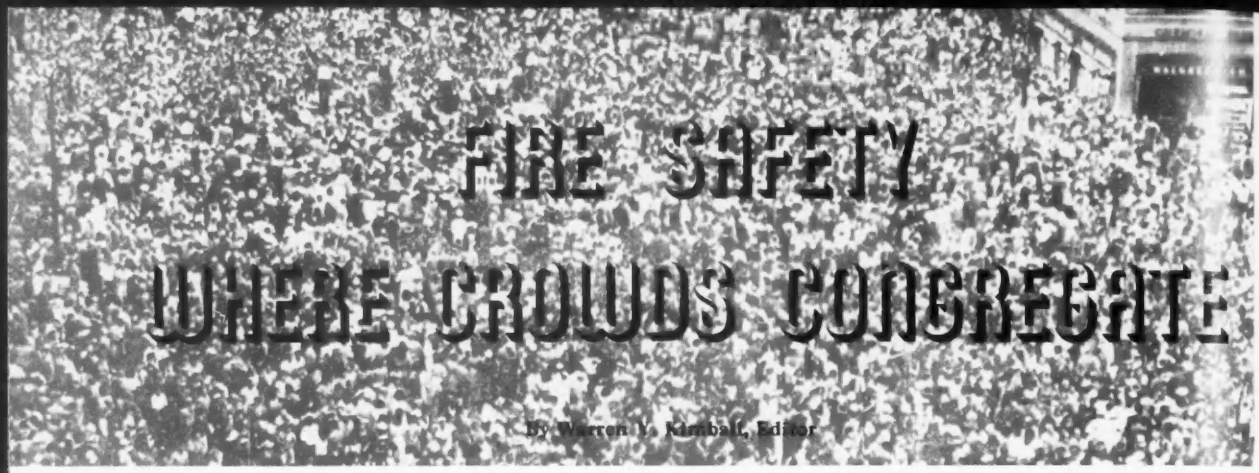
It would appear to many persons familiar with the operation and financial resources of the volunteer fire departments that the prices quoted are too high to facilitate prompt disposal and extensive distribution of the pumps among the volunteer fire departments in rural areas where they might do the most good. Prices lowered to fifty per cent of the

Continued on page 18

THE United States fire loss for August was $34,096,000, according to the National Board of Fire Underwriters. This figure is 11 per cent higher than the August, 1944, estimate.

Fire losses for the twelve months ending last August reached $447,603,000, as compared with $412,988,000, for the same period, August 1944.

Canadian fire losses for the month of August were estimated at $8,202,725, as compared with $4,346,550 for a year earlier, according to the *Monetary Times*.



FIRE SAFETY WHERE CROWDS CONGREGATE

By Warren Y. Kimball, Editor

Press Association

Paper prepared for the 1945 West Virginia Fire School held at Morgantown, July 25

FIRE protection for places where crowds congregate is but one phase of the greater problem of providing safety to life from fire. We must know something of the principles involved in protecting persons against fires in buildings and other structures before we can intelligently discuss means of providing fire protection for public assemblies. In the past all too much reliance has been placed on one or two nostrums which have given a false sense of security. "Believe it or not," one of the nostrums has been the idea that if we only have enough fire department apparatus, rescue squads, aerial ladders, etc., we can rush to the scene of any potential tragedy and snatch the victims to safety as "brands from the burning." Unfortunately, this is not so, because a human life is much more frail than many of us realize. Firemen should know this as they so often see a powerful, healthy brother reduced to a helpless cripple or killed in the performance of duty. Therefore, while we will make every effort and sacrifice to save lives in the event of fire, our greatest opportunity for providing life safety for public assemblies comes through advance preparations and precautions. These require a knowledge of fire behavior, a knowledge of the behavior of large crowds of persons as contrasted to individual behavior, and some purely mechanical knowledge as to the number of persons that can be handled through given exits or other means of escape in the time that may be reasonably available to evacuate a building.

Perhaps our first great problem in providing reasonable life safety in places of public assembly is the emotional contagion that spreads so swiftly and disastrously through a crowd at the thoughtless cry of "fire." Human beings have a somewhat sheep-like tendency to follow the crowd towards a supposed way of exit rather than to think for themselves in an emergency. You have all read or heard of cases of panic, and perhaps we have unduly censured those who have sought to save themselves in the mad rush towards supposed safety; but let us not forget that self-preservation is perhaps the first and foremost law of nature.

There is truth in the adage that "he who fights and runs away, lives to fight another day," which has held true for centuries. When an emergency occurs, the veneer of our modern civilization is quickly swept away in the average individual, and the old law of self-preservation reasserts itself. Nature itself conspires within us to see that this is so, and at the first warning of danger or fear a large shot of powerful stimulant or adrenalin is sent into our hearts, not by the hypodermic of some wise physician, but by our own nature of self-preservation. Thus we have, for the moment of the emergency, almost superhuman powers of speed and energy all directed toward the desire to flee. It takes a truly disciplined and educated person to control such an urge when life is at stake. This truth gives added emphasis to the great importance of fire exit drills which have helped our schoolhouses obtain such excellent records of fire safety, even in cases where construction is admittedly inferior. It shows that where children can be taught such discipline for their own good, adults too must learn that panic can lead to self-destruction when they fight each other for an opportunity to pass through available exits.

There is another aspect of crowd behavior in emergencies; that is the strange failure on the part of many persons to believe that an emergency is taking place. Witnesses of great fire tragedies, such as the Hartford circus tent fire, tell us that the audience sat unbelieving, spellbound for a precious moment or two before attempting to

Scene of the Cleveland gas explosion and fire of October 20, 1944, 130 dead.

leave their seats. There are many reasons for this that only a psychologist can explain, but we can perhaps surmise some of them. We dislike to appear foolish, we hate to appear individually panicky, although we may succumb to panic when it has swept the crowd. We hardly believe that in *our* well ordered existence, where we are protected by fire safety laws, and police regulations, and building laws, and safety codes, that such a thing as fire could trap us in such a well supervised location as a circus, a theater, or other place of assembly. We may believe that the burst of flame is part of the surprise element of the show, just as fake flames are often seen on the stage with the approval and permission of the fire authorities. So we waste that precious moment to see how the show is going to turn out and suddenly we realize that *we* are the unprepared actors on a stage of most dramatic consequence. The few persons who appreciated the danger and already made their way to the exits are at the forefront of the few that have escaped unharmed. However, it would be most dangerous to advise that at the first sign of flame all persons should rush toward the exits, because then panic would start. One more thought that may interest us in this connection is the fact that so many persons discovering an ordinary fire fail to sound an alarm promptly, because they fail to grasp the fact that something has gone wrong, that an *emergency* is occurring, that it is up to them to take emergency action in calling out the protective forces. Many big fires have occurred while spectators have watched the flames and heard cries for help, but failed to sound the alarm, assuming that *someone else* had already called the fire department.

Then let us consider those people who by nature minimize the danger of fire when it occurs in a public place. There are those people filled with self-confidence and perhaps bravado who have a desire to demonstrate *their ability* to cope with any situation or emergency and to show that *they* are not moved by the fear that activates the common throng. This type is the so-called extrovert, the sportsman confident of his performance. A fire occurred in a large Chicago bowling alley one night last year, the patrons were not a bit excited by the clouds of smoke that were driving through the structure after the fire was announced. They took their own good time in taking their belonging from the lockers and moving toward the exits. They did not realize that flames were raging furiously through a roof space above the flimsy suspended ceiling of that huge hall. They watched with curiosity while firemen struggled to bring lines of hose into the structure, handicapped by the dilatory tactics of the customers. Suddenly the ceiling fell and numerous persons were trapped in the raging inferno of flames with at least eight lives lost and others injured.

168 persons perished in the Hartford, Connecticut, circus fire, July 6, 1944.

Mechanical Features

Now perhaps we should consider some of the mechanical factors which have a bearing on fire safety in places of public assembly. How often even to this day is it common to find doors that open inward against the direction of traffic flow in the case an exit is required. We could name case after case, including some of the great school fire tragedies, as at Peabody, Massachusetts, or Collingswood, Ohio, in which children piled up behind exits either barred by inadequate door openings, lack of panic-proof hardware, or by doors that had to open inward that were jammed by those seeking to escape. How simple a thing it should be to see that all exit doors opened outward. This major life safety hazard of doors opening inward exists in many places of public assembly.

Next we must consider the adequacy of exits. It is possible for fire protection engineers to estimate the number of persons likely to be in attendance at a place of public assembly and to provide adequate exits, such as called for by the National Fire Protection Association's *Building Exits Code*. Such provisions should not depend merely upon the number of tickets sold or the number of seats provided, because experience has shown that where the attraction or interest is great enough, the building may be packed beyond the usual safe seating arrangements.

The N.F.P.A. Committee on Safety to Life has made numerous studies of exit requirements, and for fire security standards we might say that exit requirements for a place of public assembly bear some resemblance to friction loss we study in fire department hydraulics. If we have a large diameter fire hose, we note that considerable quantities of water can flow through with comparatively small friction or pressure loss. If we have wide, adequate corridors and doorways which do not diminish the way of exit, large numbers of persons can file through in a reasonable time, but where the doorways and passageways are narrow, we get a "high friction loss" and only a few persons can squeeze through in the time that may be available. The N.F.P.A. Committee on Safety to Life has determined that an exit width of at least 22 inches must be available for each file of persons. If 100 persons can reach safety in two minutes in a file of 22 inches in width, and this all will agree is a very reasonable width requirement, it is not possible to get 125 persons through by providing 26½ inches of width, because you still do not have width enough to have a second file. To decrease the danger of panic and entrapment, it is necessary to have 44 inches, to have two files through the exit.

Now there is another most vital consideration in planning adequate exits for public assembly; we must have more than one means of excape. This simple fact has been overlooked again and again and even federal authorities in providing emergency housing have frequently ignored this factor of life safety. When this provision is ignored, lives are paid as a consequence. The reason for the second means of exit should be obvious, and that is that fires invariably spread through the same channels, hallways and passageways that human beings use to enter and leave a structure. As heat rises, fires sweep up stairways cutting off the normal means of escape unless, which unfortunately is not usually the case, adequate fire stopping has been provided.

The N.F.P.A. *Building Exits Code* calls for two means of exit as remote from each other as possible and so located that if fire cuts off one means of exit the other will remain available Now as we are al-

Continued on page 14

Conflagration at Alton Bay

From accounts by

Chief L. P. Mansfield
Wolfeboro Fire Department
(Member N.F.P.A.)

and

A. C. Hudson, Secretary
New Hampshire Board of Underwriters
(Member N.F.P.A.)

WHEN some 235 wooden summer cottages are packed into an area of about 10 acres, and a kerosene stove fire gets out of control during hot summer weather, an old-fashioned conflagration can be expected.

This was the situation shortly after noon on August 23, when a kerosene cook stove flared up in one of the cottages in the Advent Christian Camp Ground at Alton Bay, New Hampshire.

The camp meeting site had been in use since 1862 and most of the structures were very old. Typical construction was 1½ story frame with wooden shingle roofs.

When the fire started one of the occupants ran one-third of a mile to the nearest fire alarm box which transmitted the alarm to the local volunteer fire department. Considerable time would have been saved had alarm facilities been placed nearer to the point of origin.

There was a municipal water supply fed from springs but the volume available was sufficient only for domestic supply or a small fire involving only one building. There were no hydrants near where the fire started and only two hydrants on a small main were available for the entire fire area.

Due to the time lost in giving the alarm, five cottages were involved when the Alton firemen arrived. Without a visual picture of the location prior to the fire it is difficult to realize what a maze of buildings this was. There was only one street that ran at right angles to the direction of the fire travel. It was at this point that lines were eventually massed and the fire was stopped.

Ultimately 15 fire trucks were mobilized to stop the fire. These consisted of 12 pumpers, 1 hose truck, and 2 tank trucks. Long lines were used as water was pumped from Lake Winnipesaukee. Hose used totalled 12,800 feet of 2½-inch, 5,650 feet of 1½-inch, and 550 feet of booster hose. There were 8 streams from 2½-inch hose and 8 streams from 1½-inch hose.

At the start of the fire there was considerable confusion and the first task was clearing the public from the endangered area. Two-way fire department radio played an important role in the control of the fire. Chief L. P. Mansfield of Wolfeboro kept in communication with his station with the set in his car and the station in turn broadcast to Franklin and Loudon. Messages were rebroadcast throughout the state as required keeping the entire fire organization of the state on the alert. The radio was a vital factor all the way through the fire both in obtaining equipment and in assigning in-

Flames roar through cottages adjacent to one of the open air camp meeting grounds

Most of the damage was due to direct exposure to flames in closely packed cottages. Note: One cottage almost gone — the next is just starting to burn.

International

Air view of the fire area as firemen wet down the ruins. Cottages in the foreground were saved. Fire apparatus may be seen taking suction from the bay.

Destroys 235 Summer Homes

coming help to the best locations to fight the flames.

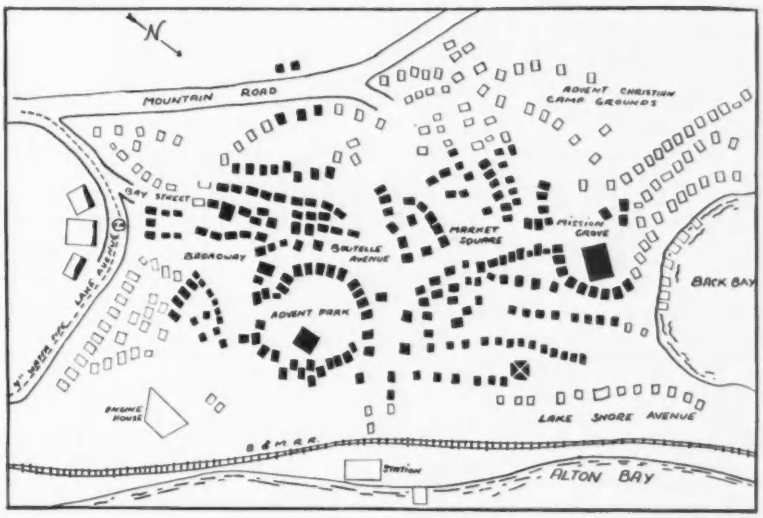
At the height of the fire the wind became calm giving fire fighters a few minutes to regroup the lines and make an effective stand along the one available roadway. Some very hot work was required at a number of points to stop the fire. Firemen from Dover, Laconia, and Wolfeboro stopped the fire in the vicinity of the tabernacle building and saved a substantial area. The Rochester Fire Department aided by a crew of firemen under Chief Bucky Green of Concord (member NFPA) who were on a fishing trip nearby when the blaze started, made a very effective stand and saved the dining hall and several other large frame structures.

One factor that is considered somewhat remarkable was that considering the amount of burning embers carried through the air, only 25 or 30 spot woods fires broke out and the total area involved did not exceed an acre, although the month of August was rather dry. It is believed, however, that the destruction of one or two buildings was caused by flying embers although most of the spread of the fire was due to direct radiated heat. It is understood that one dwelling was consumed by embers setting fire to dry grass which communicated with the dwelling while another was started burning by embers landing on the wood shingle roof of an outbuilding from which flames spread to the cottage.

The importance of tank trucks for transporting water in rural areas was shown at the fire. The local fire department had an 800-gallon tank and the Guilford Department had one of 500-gallon capacity, both of which were used extensively.

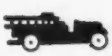
Although Alton is a branch of the Laconia Chapter, American Red Cross, the Wolfeboro Chapter was called at the start of the fire for medical supplies, Motor Corps transportation and feeding. The Wolfeboro Chapter set up an emergency dressing station with a physician, an interne, and four nurses from Huggins Hospital, two Red Cross nurses aids, and three ambulances as well as a mobile canteen which served sandwiches, hot coffee and fruit juices to fire fighters and civilians throughout the afternoon and evening.

The various outside communities responding with apparatus were: Barnstead Parade, Chief A. Canfield; Dover, Chief Edward Knott; Farmington, Chief Andrew Foss; Gilmanton Iron Works, Chief A. L. Perry; Guilford, Chief Roy Page; Laconia, Chief A. W. Spring; New Durham, Chief Rene Grenier; Pittsfield, Chief H. E. Montgomery; Rochester, Chief Ralph Seavey; and Wolfeboro, Chief L. P. Mansfield.



Fortunately no lives were lost. There were a few minor injuries such as scratches and burns. One Alton fireman with a wooden leg lost a bolt in his ankle and was taken to a garage for repairs.

The destroyed buildings and contents were assessed for $48,690, but it is believed that replacement costs would be considerably higher. Newspapers placed the damage at over $200,000.



Fire Prevention Week Contest

The N.F.P.A. is awarding prizes for the best photographs of the 1945 Fire Prevention Week displays by member fire departments.

Send in pictures of exhibits arranged by your department.

First prize — $10
Second prize — 5
Third prize — 2.50

This contest closes one month after Fire Prevention Week ends.

Many of the buildings were on a steep hillside making approach with hose streams extremely difficult.

Big Fire at Morristown, N. J.

Reported by F. C. Rubury, Inspector
Schedule Rating Office of New Jersey (Member N.F.P.A.)

ON the morning of Sunday, September 2, a woman resident occupying the second floor apartment at No. 10 Speedwell Avenue, Morristown, N. J., observed smoke evolving from the rear section of No. 1-3 Park Place. She notified her husband and proceeded to transmit an alarm by phone. Her husband raised the front window of their apartment, and called to an auxiliary policeman on the opposite side of Speedwell Avenue, notifying him of the condition. The auxiliary policeman ran a few feet to the emergency bell, located on the outside of the fire house at No. 7-9 Speedwell Avenue, and gave an alarm. The paid firemen, on duty in fire headquarters, on receiving the call, telephoned the chief of the fire department and responded to the scene with independent hose company pumping engine, accompanied by several firemen who were on duty in fire headquarters at the time of the alarms, which were received at 12:58 A.M.

With the arrival of the pumping engine, street fire alarm box No. 51 was being pulled, at the northeast corner of Speedwell Avenue and Water Street, by a member of the fire department who had been visiting at the American Legion Club near this location. This general alarm was received at 1:00 A.M. Two additional pumping engines, one 75-foot aerial ladder truck, 1 hose tender and booster, 1 salvage corp truck and 1 search light truck, with additional volunteers and paid firemen, responded.

The firemen arriving on the first pumping engine noticed much smoke in the street and around the front of building, show windows in the National Shoe Store at No. 1 Park Place were broken, and firemen tried to enter this first floor area with a booster line, so as to fight the fire from the inside. Most smoke seemed concentrated here. The heavy smoke and flame had already made too much progress for such action. From that time on practically all fire fighting was concentrated on the exterior.

The chief of the department arrived at the fire shortly after the general alarm had been turned in, and it was evident then that the blaze had gained tremendous headway. He ordered the second alarm sounded at 1:10 A.M.

Five hose streams were in operation throwing large volumes of water into the front of the burning building, with one hose line concentrated on the rear of the structure.

It was soon evident that the fire had spread rapidly and it was not long before the entire section at No. 1-3 Park Place and No. 2-4 Speedwell Avenue was completely involved, and spreading to other portions of structure through unprotected window or wall openings.

A third alarm was sent in at 1:20 A.M. which brought out additional men, and Chief John Cullinan of the Morristown Fire Department accepted the offer of aid of Chief Freelan Green of Morris Township (member N.F.P.A.), who called four of the Township companies to the scene.

Morris Township responded with 3 pumping engines, 1 city service ladder truck, 1 search light apparatus, and 35 firemen (including 2 paid firemen and a volunteer chief). They were assigned to the rear of the building with four hose lines extending from hydrants on High and Prospect Streets and Park Place.

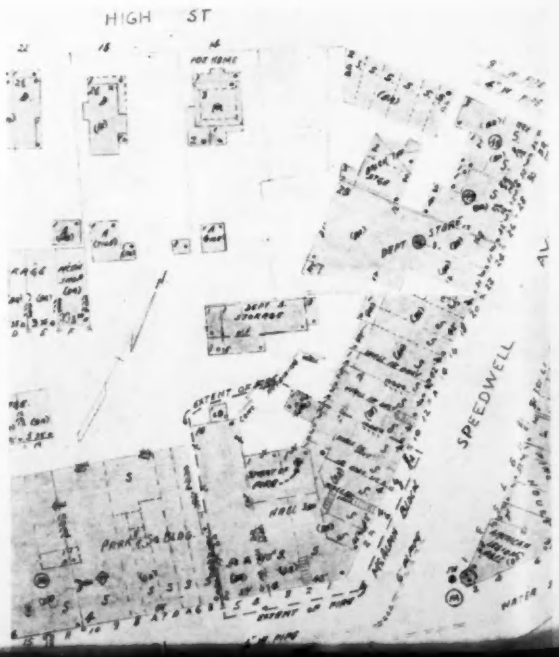
Morristown Fire Department had approximately 100 firemen (including 9 paid firemen and a paid chief) fighting this fire. Full response consisted of 6 companies.

It was about 20 minutes after the fire was first discovered that two large plate glass bay windows in the second floor apartment at No. 2 Speedwell Avenue blew out with great force, apparently caused by internal heat, showering spectators gathered across the street in front of the American Legion Home and the Fire House with glass. Fourteen spectators were injured. Auxiliary with its ambulance and men trained in first aid work rendered invaluable assistance to the firemen in this hour of need. Had the second floor windows been broken or opened to allow the heat to escape this accident might not have occurred. However, it was almost impossible to realize this condition at the time, as the efforts of the firemen were concentrated elsewhere on the structure to prevent the spread of fire, that they did not have time to ventilate these dwelling rooms.

At about 2:00 A.M. the roof and floors of No. 1-3 Park Place and No. 2-4 Speedwell Avenue collapsed and the blaze extended skyward for 25 feet or more above the top of the building, and flying embers were showered over a large area by a moderate wind, but a heavy shower which came up at the time was instrumental in checking practically all of the burning flying embers.

In addition to throwing large volumes of water into the burning building, the fire department had hose lines on the roofs of the buildings on the north and south.

If the fire department had not used large quantities of water, the fire would undoubtedly have involved or extended to exposures, ordinary window openings in exterior walls of risk and exposures. The fire department is to be highly commended for



the excellent stop it made. The fire was officially declared out at 4:15 A.M.

The presence here of automatic sprinklers undoubtedly would have confined fire to the section of its origin.

If the interior construction of this building had been as fire resistive as its enclosing walls, this fire would have been of slight consequence, again emphasizing the need of fire-proof construction for a building of this height and area.

Because of the rapid spread of fire through vertical openings again stresses the need of fire resistive enclosures with fire doors to prevent the spread of fire from floor to floor.

Solid fire walls and fire partitions are recommended to subdivide large floor areas.

The loss to these stores and apartment buildings was estimated at $280,000.

"Flameproof wooden hangar — $30,000,000 loss." The Florida hurricane of September 15 probably caused its greatest damage at the Richmond Naval Training Station. During the storm 3 dirigible hangars of flameproof wooden construction collapsed. The ensuing fire, caused by ignition of large quantities of gasoline from fractured plane and automobile tanks destroyed 366 planes, 25 blimps, and 150 automobiles parked in the three hangars. Preliminary reports indicate that splintered flameproofed wood outside the area of burning flammable liquids was not consumed. These hangars measured 190 feet in height, 1,000 feet in length, and were 320 feet wide.

The civilian fire chief at the base, Harry H. Schultz, was killed.

Press Association

TRI-STATE FIREMEN'S MEET AT WALLUM LAKE, MASSACHUSETTS

Several hundred volunteer firemen and forest fire fighters from Connecticut, Massachusetts, and Rhode Island, together with their families and friends, met at Wallum Lake State Reservation on Sunday, September 23, to exchange ideas and demonstrate improved techniques of fire fighting. On the scene were seventeen pieces of fire apparatus including pumpers, forest fire trucks, and emergency trucks. A unique unit was a brush buster fire truck from North Smithfield, Rhode Island, that demonstrated its ability to crash through the woods and over rough terrain in pursuit of forest fires.

State forest fire trucks from the Connecticut Forestry Department and the Massachusetts Conservation Department were objects of interest.

Voluntown, Connecticut, volunteers demonstrate ability of their new International truck equipped with both front-mount and midship pumps to deliver ten 1½-inch lines.

A 500 g.p.m. Rockwood waterfog nozzle attached to a Baker deluge gun supplied by two 2½-inch lines from 500-gallon pump.

Navy fire crew from Quonset Point Air Base demonstrate extinguishment of oil pit fire with two fog streams from Beanhigh pressure guns.

Hot Orange Juice—$2,000,000

Citrus by-products plant destroyed by fire of undetermined origin, August 27, in Dunedin, Florida

THE importance of calling all available help promptly in the event of fire in a large plant was illustrated by the fire which razed the two-million-dollar Citrus Concentrates, Inc., plant near Dunedin, Florida, early on the morning of August 27.

The property was a huge war plant preparing citrus by-products for the army, navy, and lend-lease. The fire was controlled partly by automatic sprinklers, but flames spread through an unsprinklered blind attic.

According to reports, the fire was discovered shortly after midnight by the night watchman who heard the alarm turned on by the automatic sprinkler system. Before the fire department arrived, the fire had extended to tanks containing flammable liquids and orange oils, burning beyond control. Blasts from these tanks made it necessary for the firemen to withdraw their efforts and concentrate on saving a new warehouse and the cattle feed by-products mill. These were badly damaged but can be re-built. A broken water main placed several hydrants out of service.

Damage was variously estimated at $1,000,000 to $2,000,000, with 450 employees thrown out of work.

The Dunedin Volunteer Fire Department was notified about an hour after the fire was discovered, and half an hour following their arrival, more help was summoned from Clearwater. At 3:15 A.M., as spectacular flames were shooting more than 100 feet into the air, fire fighting re-inforcements came from St. Petersburg, twenty-two miles away. Housed in the main building were offices, laboratory, machine shop, concentrating and evaporating equipment, and pectin plant.

Lost also in the blaze were 150,000 gallons of orange concentrate in cold storage; 150,000 cases of single strength juice, most of which was government property; 20,000 gallons of orange oil; 150,000 pounds of pectin and 500,000 pounds of orange jelly.

The plant was built in 1942 by the government and thousands of dollars worth of food products had been shipped overseas.

The Dunedin Volunteer Fire Department joined the Volunteer Firemen's Section this month.

Fog Nozzle Demonstration

New Haven, Connecticut

Above. **Three views as two 500 g.p.m. fog nozzles on deluge truck drown flammable liquid fires in open pits.**

Above. **Two 500 g.p.m. fog nozzles on ladder pipes of 85-foot aerial control blaze in tower.**

ALL firemen of the New Haven, Connecticut, Fire Department are trained in the use of fog nozzles of varying capacity up to 500 g.p.m. Readers of VF may recall the story in the January issue describing the extinguishment of a blazing railroad tank car fire by the New Haven firemen under Chief Paul P. Heinz, member N.F.P.A.

Using fog nozzles, the firemen, in cooperation with the New York, New Haven and Hartford Railroad, have experimented with hose streams near 11,000-volt high tension wires. It was found that a 20-foot closer approach could be made than with solid streams.

Among the special feats performed by the New Haven firemen using Rockwood fog nozzles was the extinguishment of numerous gasoline and oil pit fires, as shown in the photographs.

Above. **Fammable liquid tanks extinguished by fog nozzles on mobile hand lines.**

WHERE CROWDS CONGREGATE

Continued from page 7

ways most familiar with the entrance that we use entering the structure, it is important that all other exits be adequately marked, so that if our normal exit is cut off in an emergency, we can readily locate the alternate way of escape.

The *Building Exits Code* calls for proper lighting of emergency exits and recommends the use of a green light so the danger of a red light being mistaken for flame, thus causing panic, will be avoided. It is obvious that exit lighting should be made as dependable as possible, so that routine interruption of electric current will not deprive occupants of their chance to escape. This exit light also must provide light enough to illuminate the means of escape and not just provide light for the markers over the exit doorways.

It will readily be seen that the problem of providing life safety for places of assembly, such as schools, hospitals, and institutions, where physically handicapped or immature persons are present creates added problems and difficulties.

Fire Drills

It is interesting that at the $4,000,000 fire that swept the huge Evansville State Hospital one night several years ago, almost all the mental patients were saved because of well organized and regularly conducted fire drills, showing that even people who are sick mentally can be safely evacuated where fire drills become an essential part of their routine existence. Of course, in such cases the devotion of the attendants is no less important, and it was only unfortunate in the Evansville fire that the building itself was a fire trap and that fire protection facilities were woefully weak.

Revolving Doors

While we are on the subject of exits, we should point out that revolving doors are not recognized by the *Building Exits Code* as a primary means of exit. The wisdom of this decision was cruelly emphasized in the great Cocoanut Grove Night Club tragedy in Boston where some 490 lives were lost. Almost no two types of revolving doors are collapsed in exactly the same manner or technique. Crowds cannot pass through such doors quickly, and so after the Cocoanut Grove disaster considerable legislature was adopted throughout the country restricting the use of revolving doors as emergency exits. There are other types of exit obstruction that have played a part in fire disasters such as locked gates around industrial properties and other enclosures. Such gates are usually controlled by a guard house at the entrance. It has been indicated that in the great East Ohio gas tragedy in Cleveland, costing 130 lives, many employees were trapped by the high, barbed wire cyclone fence. Possibly part of those lost failed to make their escape because of failure to open the plant gates promptly enough.

Fire Escapes

I think that perhaps in this study we can leave the importance of structural stability, the dangers of loose folding seats and chairs, which may be moved in an emergency to obstruct exits, and other such features to the authorities designing life safety codes and laws. In such cases, we will be chiefly guided by the requirements of the *Building Exits Code*. Probably the next most important item that we should consider is the all too familiar matter of fire escapes. The old-fashioned iron grill fire escape is inadvertantly an admission that a building has not been planned with adequate safety exits. Yet every time there is a fire there is a public clamor for laws requiring more unsightly and unsafe iron fire escapes with which to plaster the architecture of American cities and to provide a convenient stand on which to grow attractive plants and to air bedding of tenants and on which *to grill them to death* in the case of fire. Have we sufficiently considered how closely the old iron fire escape, the ladder of which generally requires a gymnast to negotiate successfully, resembles the familiar outdoor grill used by summer campers when broiling steaks over an open fire? Almost all fire escapes run down the exterior of the building adjoining open plain glass windows which readily break with a few degrees of heat, or perhaps are left open as weather conditions dictate. These windows permit ventilation for flames from the floors below permitting them to sweep up underneath the fire escape and many have been the victims thus entrapped.

Better Remedies

Much more practical and sensible remedies are overlooked by the exponents of fire escape salesmanship. A good stair enclosure particularly at the street floor level would cost less and provide much greater safety. A surer plan would be to buy an automatic sprinkler system for halls and corridors. Since this was required by law in the city of Boston many years ago, following an apartment house fire tragedy, not a single life has been lost in hundreds of apartment house fires through persons being trapped by fires sweeping up from the basement or lower floors. Whenever an experienced fire protection engineer sees a hotel or other building decorated with the hideous iron fire escapes, he usually looks around to see if that town does not afford a safer place in which to pass a night. City firemen who have had considerable experience with fire escapes seldom dare to lean backward very far for fear that the corroded or rusted railings may give way. Such use of unprotected iron or steel should be relegated to a category comparable to our 1941 shipment of scrap iron and steel to Japan, as again we are only using this scrap iron to hurt our own safety and to deceive ourselves with regard to security against fire. While we may be wrong, the *Building Exits Code* only recognizes substantial outside iron stairs and fire escape platforms on exist-

Revolving doors blocked patrons' escape from Boston night club inferno, November 23, 1942.

Acme

ing buildings which lack other more acceptable means of exit.

A Wee Drap o' Liquor

There are many other factors which have played leading but not always conspicuous roles in our great toll of lives from fire in places of public assembly. Perhaps this should not be mentioned in the hill country where corn is noted for its potent liquid qualities, but the most disastrous villain and yet one which is all too often unmentioned is our old friend John Barleycorn. Who can say that in a night club fire that takes 500 lives how different the outcome might have been had all persons been as thoroughly sober and clear headed as the judge of a juvenile court. I think when most of us go to night clubs, it is more or less to forget the world and its troubles and the old fire water has a reputation for being helpful in that regard. I would not go as far as some experienced fire department officers who claim that they have never known a fire fatality, outside of some children's clothing igniting, that did not involve intoxicating liquor. For example, a published account of a recent hotel fire in which several persons lost their lives did not satisfy the curiosity of certain technical experts who could not understand why the exits in that building were not adequate and why a life was lost only a few feet from egress. This mystery was readily cleared by the local fire chief who appended a confidential note to the fire report stating that the victim was so intoxicated that friends could not get him to a point of safety. Such cases happen again and again. We are not suggesting the cure, but we are observing that where there is likelihood that some problem of this nature may be present, it is all the more imperative to provide adequate and easy-to-recognize means of exit.

Don't Fence Me In

Among the other topics we must briefly touch on in our study of life safety in places of public assembly is the fact that no obstructions to normal exits can be tolerated. This principle, recognized in the *Building Exits Code*, was emphasized in most deadly fashion at the terrible Hartford circus fire which took the lives of some 168 persons, mostly women and children. The normal circus exits, while not adequate from the *Building Exits Code* point of view, according to measurements made on the circus grounds by the writer, would not have been woefully inadequate had not two animal runways in the form of long cage-like structures (extending from the cages in the rings where the animals perform, to their wagons outside), blocked all but one of the exits on the north side of the tent. This one exit was a very narrow passageway, only about 52 inches wide, and was the only unobstructed means of exit for some 3,000 seats, most of which were filled. In other words, according to the *Building Exits Code* provision of 22 inches for each 100 persons, there were only adequate facilities for some 200 of the persons in this general area where most of the loss of life occurred. After the fire, scalps of human hair, torn clothing, shoes, combs, and other such debris gave mute evidence of the bodies that had piled up against these wire cages. Incidentally, the circus authorities are cooperating with the N.F.P.A. and the Building Officials Conference of America in developing proposed standards for grandstands, tents, and other places of outdoor assembly. These proposed standards have been printed by the N.F.P.A. and are available for fire officials and others interested.

Don't By-Pass the Cash Register

Now I feel sure that all of us realize that life safety in places of public assembly is not a simple matter. It requires a lot of careful thought in working out means of protection from fire. Some of the items we have not even touched on include the desire of the management of such places of assembly to see to it that all checks are paid before patrons leave even in the event of fire. It has been stated that in some of the great fire disasters, the persons first attempting to leave were almost compelled to stop by the cashier's desk. In other cases the customers stopped by the check room even though in so doing they blocked the way for less fortunate persons behind them. Again a major factor in such tragedies has been the natural inclination of persons to linger outside the doorway in an almost "to hell with anyone else" attitude, not realizing that unless they moved well away from the door further escape is slowed. The *Building Exits Code* requires full means of escape to the outside streets or open field. Other persons once having escaped all too frequently fight their way back into the structure against the path of persons escaping, trying to locate their loved ones. This is, of course, a commendable example of selfless devotion, but it frequently is very important in inducing added loss of life. It reminds one of the wailing woman who asked the preacher why God had not spared her son from the straight and narrow, because she had prayed for him every night. The old man answered, "Did you pray for your neighbors' sons?"

A Job for Professional Fire Fighters

Only experienced fire fighters and emergency rescue workers and certain employees should be permitted to attempt entrance once a fire is well underway. Unfortunately, as is well known to firemen, police seldom arrive in adequate numbers at the early critical moments of the fire. Thus the work of controlling the crowd and combating panic falls upon the fire department, as well as the work of combating the flames. I think most of us have seen the police finish their pinochle game before they answer to the alarm of fire. Somehow it is just in the police tradition not to be hurried too much. They are not like their brothers in blue, the firemen, who are so impetuous that at times they rush off without being any too adequately dressed.

Flammable Decorations - Concealed Exits

Other factors that must be considered as we have been told after many great tragedies are the need of restricting the use of flammable decorations, the danger of concealed exits either for aesthetic reasons or appearance, or because it is much easier to control a cash crowd through a few exits than through many, and it takes less help to see that no one goes through the backdoor without paying.

Strangely enough many church authorities flagrantly disregard good practices with regard to life safety in large religious assemblies and are more or less put out when fire officials suggest that rear or side doors might be made emergency exits. I think most of us are waiting for some great emergency to occur in these weird candlelight processions that offer up little children in flimsy gowns as tempting bait for the fire god Moloch. A recent issue of an official magazine published by the government of India showed Indian troops drilling with flaming torches for arms. This magazine also showed members of these troops diving through hoops of fire and other examples of physical attempts of bravado by these people. To have supposed American Christian people attempting so many of the fire worshiping practices of the heathens in these modern days seems to be tempting an inevitable calamity, but the nearest approach to a great church fire tragedy in the United States was the fire which took eight lives in a parish hall of a Baltimore church last winter.

In conclusion we might observe that every community has numerous places of public assembly that require constant vigilance on our part to see that lives are not lost from fire. We might also remember that for every fire tragedy taking lives on wholesale scale, there are hundreds of fatal fires in every state and the likelihood of fatalities in every community. Even firemen are not fireproof and some of us have seen men wearing asbestos suits who had their pants overheated, walking through fire. Let us recognize fire as the danger it is, and ever remember that eternal vigilance is the price of safety.

Mr. Lund is chairman of the N.F.P.A. Fire Marshal's Section and a member of the Farm Fire Protection and Membership Committees.

Second Guessing

by Leonard C. Lund, Deputy Commissioner

Minnesota Fire Marshal Division

IN football the quarterback is given a good going over by the "drug store cow boys" if he fails to call the signal which would have put into execution a play which, they — the second guessers — say, would win the ball game.

In baseball we have the same kind of second guessing — if the pitcher had thrown a fast ball instead of a curve, the batter would not have made a two-base hit, and the home team would not have lost the ball game. This is more second guessing.

In business — if we had sold our grain or stock at a certain price, we would not have taken a loss when the market dropped. Second guessing.

Fire departments are certainly not immune to second guessers. We have the "curb stone chiefs" whose remarks may run along these lines:

Why don't they get more hose?

Why don't they raise that ladder?

Why don't they break down that door?

Why are they cutting the hole in the roof?

Why does it take this outfit so long to answer an alarm?

Why bring out all of the equipment? It is only a small basement fire.

Why don't they use more men in raising that ladder?

Why doesn't this fire department have drills?

Why did the chief permit the men to go into the basement without gas masks? Now they are carrying them out.

Why did they break down that perfectly good door?

Why do they break the windows on the second floor?

Why, my old Aunt Sarah can run a fire department better than that.

Why does it take them so long to turn on the water?

Why don't they get some new ladders?

Why don't they get a new truck?

Why isn't that ladder properly set and anchored?

Why do the men run around not knowing what to do?

Why doesn't the chief give orders? Every fireman seems to do just as he pleases.

Why isn't the chief at this fire?

These are just some of the "whys" you hear at a fire. Well, let us analyze just a few of them. Some may be criticism that is well placed. Others we can set aside as the utterances of those who know nothing about fire fighting — strictly second guessers.

In analyzing some of these second guessings — how about equipment? Has an earnest request been made by the fire department to the city or village council to obtain sufficient equipment. If this effort has been made and the council has turned it down, then let us not blame the fire department.

Now then, suppose they do have sufficient equipment, but do not know how to use it. Is this justifiable criticism or second guessing?

We are all familiar with the manpower shortage at the present time, and we know it takes manpower to operate fire-fighting equipment. Assuming that a department has enough personnel, and yet they do not know how to handle the equipment properly, then it is a question of training and drills. If drills have been conducted, and everyone knows something can often go wrong at every fire, then the second guesser is wrong. But if the observer from the curb notes the manner in which the equipment is manipulated and handled is due to lack of training, then one can say the second guesser is right.

If it is a question of a lack of manpower, and after the chief has made a sincere endeavor to acquaint the municipal authorities and the townspeople of what they are up against in fighting fires — that he needs help immediately and that it is necessary to train green firemen and explains the seriousness of the problem — then naturally the second guesser is in the wrong. He doesn't know of what he speaks.

But, if there is sufficient equipment — sufficient manpower and sufficient water supply, but the training has been lacking, then it can be said emphatically that the fire department is lax, and the second guesser's criticism is justified.

However, if the case is that the chief has made a half-hearted effort to obtain sufficient men, and nothing happens and he carries the feeling that it is strictly a volunteer fire department anyway, and harbors the thought that if the people of his community do not care, why should he? — we again say that the chief is wrong.

We all know that second guessing and criticism are practically one and the same thing — they are closely related, and some is justifiable and some is not.

Does the chief's attitude promote the second guesser? And is it the townspeoples' problem as well as the chief's that these things have been or have not been done?

So to the second guesser let us state — if he is so very much interested in the fire department and the workings of the same, before he utters any second guesses or criticism, and before he passes judgment in the open and makes any derogatory statements against his fire department, he should learn for himself if what he says is true.

The poor handling of equipment cannot be laid to the chief entirely, if he has not received permission of the city council to send his men to training schools to learn new methods of fire fighting and firemen's drills.

If he has had permission from the governing authorities to obtain information and knowledge that is available to all firemen, and does not take advantage of the opportunity offered him, then the blame rests solely on his shoulders. If by the same token he has been refused permission to attend schools, either himself or his men, then naturally the guilt rests on the city council, and evidently the townspeople are satisfied with their setup and there is no incentive for the chief or the firemen to build up the efficiency of their fire department.

The townspeople in communities in this particular category, should be enlightened to the effect that firemen's schools, training and drills are of paramount importance to any fire department. It is the one method they have to keep abreast of the times and learn new methods of combating fires in this day and age, and the handling of new types of equipment; and that the uninformed second guesser is a handicap at any fire. He voices the opinions formed in his own mind about what should have or not have been done and makes remarks merely for the sake of criticizing the firemen. Such tactics and criticism are indeed rough on the firemen.

There is an answer to this problem of the second guesser, but not with the idea of approaching one of these self-appointed critics at the scene of a fire and starting to dispute with him the why and wherefore of the execution of certain maneuvers. You belittle yourself by so doing — justified or unjustified. Public arguments do not solve the problem. It lowers the

prestige of the fire service to get into an altercation with someone who knows little or nothing about fire fighting.

How about fire department drills? Do you as a chief conduct drills or don't you. Ask yourself that question. If you have not, then surely you have left yourself wide open to the second guesser's malicious criticism.

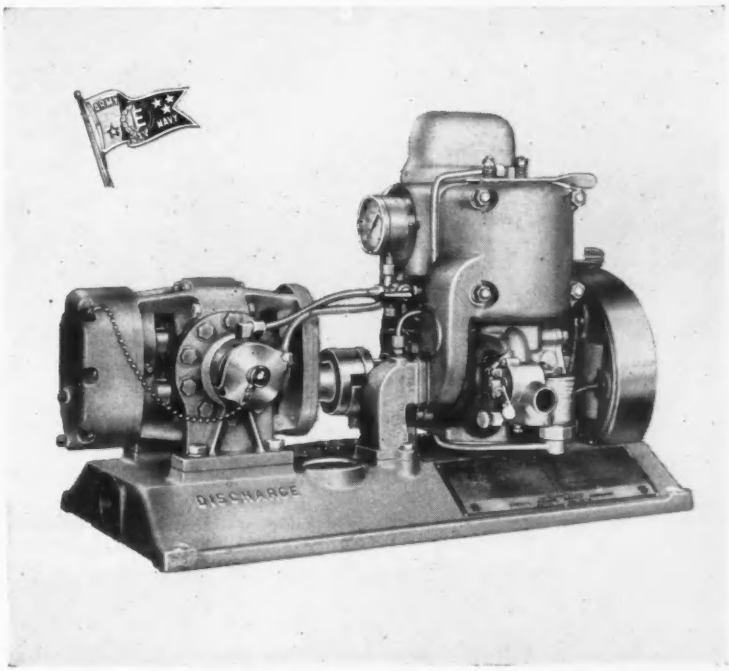
These questions that I have asked and answered are to bring out some of the reasons why the second guesser may be right at times, and to point out where fire chiefs can increase the efficiency of their departments so as not to give the second guesser something to second guess on.

Remember, no other branch of the public service is so much in the public eye as the fire department. I now refer to the performance of their duties. In uniform or out — in private life or working at a fire. Every fire you attend symbolizes a stage, and Mr. General Public is your audience whether you like it or not, and there is no charge for admission. But what a serious group of actors you firemen are! All your skill, technical training, smartness or ignorance is here revealed! Your every effort is being scrutinized, and not like other branches of public safety services; such as for instance, the police, where the general public are seldom if ever present when a bank robbery occurs or other crimes are detected and an arrest is made. The fire service is the only branch of the public safety agencies where the participants are continually on review while performing their duties.

We know that every community has its second guessers and loud mouths, who in their own minds think they know more than a fire chief and the firemen. In such cases I do not believe it amiss to contact these individuals and ask them if they will join the volunteer fire department, and if they refuse, then I believe it would be in order to ask them to forever hold their peace. In this small way, at least, they would be helping the fire department.

The Belmont Fire District of Belmont, California, wishes to sell a Type 99-500 g.p.m. rotary gear American-LaFrance triple combination pumper mounted on a GMC chassis with four speed transmission. The truck is a 1929 model T42-CF in good condition with new rubber all around and an actual road mileage of 2,735 miles. The truck has a 90-gallon booster tank and is complete with hose, nozzles, fittings, ladders, chrome windshield, red light front and rear, bell, and large spotlight. The truck is ready to go into service at once. Prospective purchasers should write to Chief Elbert E. Miller, Belmont Fire District, Belmont, California.

TYPE "Y"
Portable Pumper



While the major part of our manufacturing effort still is confined to production for the Navy, we once again are able to produce a limited quantity of our highly specialized fire-fighting Type "Y" Portable Pumpers for the forestry service, industrial plants and commercial shipping.

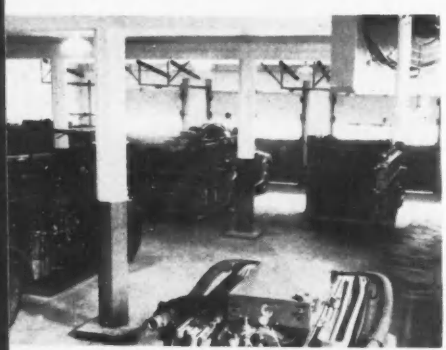
For weight and size, Pacific Marine Type "Y" is the most powerful portable pumper yet built. Base, 24 x 12 inches; height, 13 inches; net weight complete, ready to operate, 70 pounds.

CAPACITY

Pressure	100	125	150	175	200	225
Gallons per Minute	63	59	53	46	40	20

Manufactured by the
FIRE-FIGHTING EQUIPMENT DIVISION *of the*
PACIFIC MARINE SUPPLY COMPANY
SEATTLE, Washington

Above. View of living and dining rooms for house members. Below. Interior of apparatus room.



Above. Kitchen of fire station. Below. The alarm system. Gamewell register and indicator are shown. A horn coding device cannot be seen.

KETCHIKAN, ALASKA

Report by Chief Stanley W. Adams

WHEN the Ketchikan Volunteer Fire Department was being organized in the early 1900's, hand drawn equipment was in use. Their first move toward the present up-to-date mechanized department was made in 1916 with the purchase of their first piece of motorized equipment. Today the firemen drive two 500 g.p.m. pumpers, a 300 g.p.m. unit, and a combination ladder and hose rig. As soon as the postwar world resumes production of priority-free goods, the Ketchikan firemen will purchase another 500 g.p.m. or a 750 g.p.m. pumper.

In 1926 a fire boat was added to department equipment and is still in service as a modern outfit. The department maintains a first aid squad, trains in the Schaefer method of resuscitation, and has an H & H inhalator for emergency call.

Chief Stanley W. Adams, in his report to the Volunteer Firemen's Section, described his department's fire fighting area as about 6,000 population. It is a city of largely frame-constructed dwellings and other buildings.

The pride and joy of the Ketchikan Volunteer Fire Department is their fire station, which is photographed on this page, both inside and out. It is a two-story concrete building, built two years ago, at a cost of $85,000, which included the station's furnishings.

The department employs two full-time paid men, rating them as captain and lieutenant, and paying them salaries of $300 and $275 a month. The chief is elected by the department and is paid $100 monthly. The assistant chief is also elected by the department at a monthly salary of $50. All members are paid at the rate of $1 an hour or for any fraction of time over an hour. The same reimbursement applies to drills, which are held once a week during the summer.

All salaried personnel are selected by the department and ratified by the city council. The fire marshal is employed by the city of Ketchikan. His duties are to maintain the fire alarm system, make electrical inspections, and the general duties related to the office of fire marshal.

Department membership is made up of thirty volunteers and a reserve membership of approximately the same number.

Distribution of OCD Equipment

Continued from page 5

quoted prices should bring a quicker return to the Federal Treasury and would be in line with the value of the equipment to the fire service. The pumps were to a large measure built of war substitute materials and cannot be expected to have long lives under fire service conditions, particularly where maintenance will not be of highest order. Furthermore they were designed for use in connection with city water supplies and no booster tanks, pumps, or booster hose connections are provided. The equipment was not intended for small stream service although some 1½-inch hose is provided with each unit. The front-mount pumps are of direct drive design and must be used with high speed truck motors, such as those of modern Ford or Chevrolet trucks. They cannot be used on the motors of many existing hose trucks. However, the skid-mount and trailer types are provided with suitable motors.

In some sections of the country where a supply of OCD pumps is plentiful, government representatives have been active in helping the volunteer fire departments obtain this equipment and information, including price lists, has been sent out.

If any volunteer fire department is interested in purchasing one or more of these pumps and none are available through the Department of Commerce office in the region where they are located, their best recourse may be to write to their congressman requesting that their state be granted a suitable quota of this surplus equipment with the cost of freight borne by the government.

There is some likelihood that within the next few weeks Congress will revamp the entire surplus property disposal program.

"BEAN SOUP" SMOTHERS FLAMES

Arrows point to easily accessible cans of Aer-O-Foam, over 4,000,000 gallons of which have been supplied to the U. S. Navy to extinguish fires.

Official U. S. Navy Photograph

Aer-O-Foam Quickly Puts Out, *and Keeps Out*, Gasoline, Oil and Other Serious Fires

DEVELOPED by National Foam System, Aer-O-Foam, or "Bean Soup" as the U. S. Navy respectfully calls it, not only fully extinguishes fire, but it insulates threatened areas by clinging to any surface, upright or flat, and flows freely to stop any flames from spreading.

Thick, tough and enduring, National's Aer-O-Foam prevents flashbacks by thoroughly smothering flames or gases. Either low or high-pressure hose effectively spreads a heavy blanket of fire-destroying foam.

Water, in stream or in fog, sometimes helps control fires until foam can be applied quickly from handy five-gallon cans easily carried to any danger point.

National Foam's engineers are ready to help you solve your fire problems—and Aer-O-Foam is once more available for civilians.

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for use of Fire Departments to meet all types of foam fire fighting requirements.

NATIONAL FOAM SYSTEM, INC.

SPECIALIZING IN FOAM FIRE PROTECTION

Packard Building. Philadelphia 2. Pa.

REAL PROTECTION AGAINST ASPHYXIAL DEATH

•

The E & J RESUSCITATOR INHALATOR and ASPIRATOR

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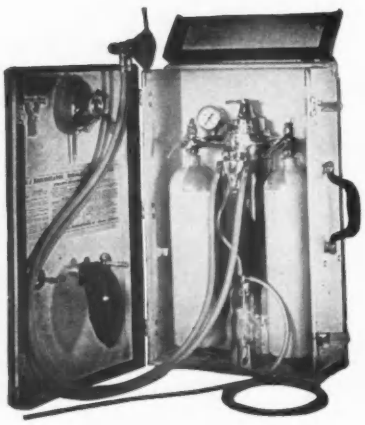


YOUR COMMUNITY NEEDS THIS SERVICE

The E & J Resuscitator enables you to treat EVERY case of Asphyxia safely and effectively. Severe burns, broken back, fractured ribs, internal injuries, pregnancy, etc., are no hindrance to successful and safe artificial respiration when you employ this modern automatic breathing machine. It is now being used in a large majority of the leading industrials, hospitals and fire departments.

YOUR RESCUE SERVICE IS NOT COMPLETE WITHOUT MECHANICAL RESUSCITATION — AND THIS MEANS "E & J" IF YOU WANT THE BEST

E & J MANUFACTURING CO.
GLENDALE, CALIFORNIA
Pioneers and Specialists in Mechanical Artificial Respiration

Drexel Bldg. Philadelphia | 17 E. 42nd St. New York | 2144 N. Springfield Ave. Chicago | 581 Boylston St. Boston
530 Fernando St Pittsburgh | 3032 W. 25th Ave. Denver | 3900 Grandy Ave. Detroit | 5005 Euclid Ave. Cleveland

Fire

ILLINOIS. The Ninth Annual School of the Southern Wisconsin and Northern Illinois Firemen's Association was held at Galena on September 16. High and low pressure fog equipment, evacuators, rescue equipment, foam generators, nozzles, and deluge sets were demonstrated by various manufacturers.

INDIANA. The Twelfth Annual Indiana State Fire School will be held at Purdue University, Lafayette, October 23-25. The tentative program is outlined below:

Tuesday, October 23

Chairman, J. L. Lingo, Director, Indiana Fire Service Training Schools.

TWELVE YEARS OF FIREMAN TRAINING
W. A. Knapp, Chairman.
E. M. Sellers, Manager, Indiana Inspection Bureau.
Carter Bowser, State Fire Marshal.

A MESSAGE FROM OUR CHIEF
Governor Ralph Gates of Indiana.

FIREMEN—WHAT NOW?
Richard E. Vernor, Manager, Fire Prevention Department, Western Actuarial Bureau, Chicago, Illinois.

KWIZ KIDS—THEY KNOW THE ANSWERS!

RURAL FIRE PROTECTION
Warren Y. Kimball, Associate Editor, "Volunteer Firemen," National Fire Protection Association, Boston, Massachusetts.

LET'S MAKE OUR JOB SAFER!
Robert F. Hamm, Indiana Inspection Bureau; Assistant Director, Indiana Fire Service Training Schools.

CAN YOU STOP ON A DIME?
Demonstration by Wayne Timmons, Public Safety Institute, Purdue University.

DEMONSTRATIONS—FIRE CONTROL PRACTICES

FIRE FILMS AND VISUAL AIDS

Wednesday, October 24

Chairman, Robert F. Hamm.

WE LEARN THROUGH EXPERIENCE
(Lessons from Major Fires in Indiana.)
Chief John McCracken, Gary.
Chief H. H. Fulmer, Indianapolis.
Chief Forest Laufraw, Goshen.

HOW TO START A FIRE!
R. D. MacDaniel, Vice-President, Grain Dealers National Mutual Fire Insurance Company, Indianapolis.

THE COST OF A FIRE!
T. Alfred Fleming, National Board of Fire Underwriters, New York.

WHAT WAS DONE IN FIRE PREVENTION
Chairman, Carter Bowser,
In the schools—Raymond Coons, Gary Fire Department.
In Industry—Arnold Meister, Chevrolet Division, Anderson.

Schools

In General—Mark Brosier, Anderson Fire Department.

Kwiz Kids—Don't Miss this Session!

Why Make Inspections?
Emmet T. Cox, Field Officer, Western Actuarial Bureau, Chicago.

No Empire State Building in Indiana (Discussion of Airplane Crash Fires.)
Francis A. Hartman, Assistant Director, Indiana Fire Schools.

Demonstrations—Flammable Liquid Fire Extinguishment

Thursday, October 25

Chairman, Francis A. Hartman,

The Fireman Deals with Arson
Dr. Richard C. Steinmetz, Chief Investigator, Mill Mutual Fire Prevention Bureau, Chicago.

Must We Change Our Methods? (Fighting fires in new materials.)
Major W. L. Gilliland, Chemistry Department, Purdue University.

Radio for the Fire Service
Miles Houghton, Assistant Chief, Elkhart Fire Department

Demonstration of Electrical Fire Causes
Joseph Lump, Fire Chief, Carnegie-Illinois Steel Co., Gary.

What's New in Apparatus?
Hubert Walker, American LaFrance Company, Elmira, New York.

This Thing Called Leadership
W. A. Ross, Consultant, U. S. Office of Education, Washington, D. C.

MAINE. The Aroostook Fire Chiefs' Association held two zone Firemen's Training Schools; at Van Buren, August 20–22, and at Easton, August 23–25.

The instructors for the school were Lt. James J. Cowan, Bangor; Chief Curtis Allen, Sanford; and Chief Arthur Emmons, president of the Maine Fire Department Instructors' Association, Saco.

Drill evolutions consisted of advanced hose and ladder work. Ventilation, operations at fires, hydraulics, relaying, and overhaul were also given. A demonstration of water fog, foam, and carbon dioxide was included.

Approximately 150 chiefs and men attended both schools, completing the prescribed courses.

NEW YORK. A new trainingschool for the volunteer firemen of Suffolk County, Long Island, opened in September, according to an announcement made by the Suffolk County Vocational and Education Extension Board, the governing body of the school.

There are more than 7,000 volunteer firemen in the county. Between 1,800 and 2,000 members of the forty fire departments are expected to enroll in the course under Chief Instructor J. J. Gomez of Patchogue.

THE CHIEF *WRITES A* *LETTER!*

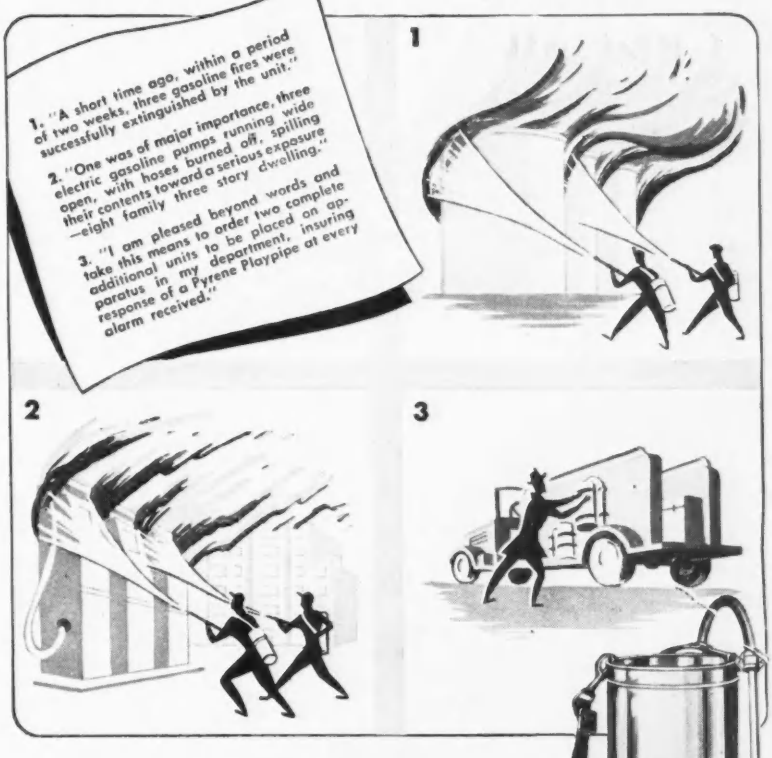
Thank you, Chief, for your letter which will find a permanent place with thousands of others, like yours, voluntarily written. In the meantime we'll quote from your letter and use it as the basis of this advertisement. In closing your letter you wrote ". . . I find the small portable hip pack and playpipe with its versatility is outstanding as applied to my particular problems in my community."

Signed.....
Chief, Department of Public Safety

1. "A short time ago, within a period of two weeks, three gasoline fires were successfully extinguished by the unit."

2. "One was of major importance, three electric gasoline pumps running, wide open, with hoses burned off, spilling their contents toward a serious exposure —eight family three story dwelling."

3. "I am pleased beyond words and take this means to order two complete additional units to be placed on apparatus in my department, insuring response of a Pyrene Playpipe at every alarm received."



Here's the Pyrene Foam Playpipe and Hip Pack used on the fires mentioned in the Chief's letter. Pyrene Foam is made at the nozzle by the proper mixture of plain hydrant water and Pyrene Foam Compound, automatically drawn from the hip pack. No mechanical or moving parts. Nothing to watch but the fire. One man does it.

By the way: When did you last test the fire extinguishers in your home?

Pyrene Manufacturing Company
NEWARK 8, NEW JERSEY
AFFILIATED WITH THE C-O-TWO FIRE EQUIPMENT CO.

International

15 Dead in Detroit Factory

FIFTEEN employees, listening to a juke box during a rest period, lost their lives when flames swept the Export Box & Sealer Co., Detroit, on August 13, the day before victory. Losses were approximately $350,000.

It is believed that the fire was due, in part, to improper use of flammable liquid in a degreasing tank in which a nonflammable liquid was supposed to be used. The plant was hastening to complete contracts that were to be cancelled at the termination of the war.

The plant was closed last April, after investigators disclosed several fire hazards, but reopened following compliance with fire department regulations.

Press Association

$3,000,000 Fire at Kaiser Shipyard

International

THROUGHOUT the war, Henry G. Kaiser has been noted for the magnitude and speed of his shipbuilding operations. In both of these respects, the fire of August 30 in his shipyards in Portland, Oregon, was true to form.

The blaze was believed to have been caused by welding sparks. The dock and adjacent buildings were destroyed and several completed ships were damaged. The fire spread rapidly over a large area and destroyed property unofficially valued at $3,000,000.

THIS IS ONE WAY TO PUT OUT A FIRE..

But there's a Better Method

This Bettman Archive print shows cowboys dragging a bull's hide across a blazing prairie fire in Northern Texas. From a painting by the famous artist Frederick Remington.

INDIAN *Fire Pumps*

DO THE JOB QUICKER AND EASIER!

Clear water harms nothing. No costly or injurious chemicals. Adjustable nozzle for pressure stream or spray. No dampness against the back.

Use Them To Stop Troublesome Fires!

Picturesque as the above means of fire extinguishing may be, it scarcely would serve to control forest, grass, rubbish or building fires in any number. The modern way is to use plenty of clear water **INDIAN FIRE PUMPS** — the portable, one-man fire departments.

Sling an **INDIAN FIRE PUMP** on the back and you are ready for fast action . . . easy pumping throws 30 to 50 ft. pressure stream. Tank carries high on shoulders like the Army pack. Will not rub or chafe the hips.

INDIAN FIRE PUMPS

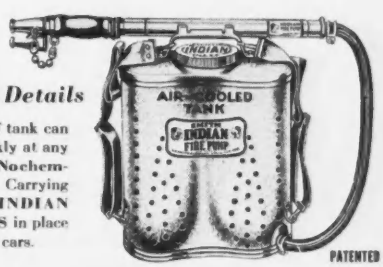
"Take Minutes—Not Hours"

D.B. Smith & Co.
Utica, N. Y.
Gentlemen:

Our department has 23 **INDIAN FIRE PUMPS**. We formerly used brooms to put out brush fires, which took hours; now with **INDIAN FIRE PUMPS** we put them out in minutes, not hours. We can't understand why more Fire Departments don't use the best Fire Pump on the market — the **INDIAN FIRE PUMP.**

CLINTON WEEKS,
Fire Commissioner,
North Caldwell

Send for Catalog and Full Details



Big rust proof tank can be filled quickly at any watersupply. **No chemicals used.** Carrying racks hold **INDIAN FIRE PUMPS** in place on trucks and cars.

PATENTED

D.B. SMITH & CO., 408 Main St., UTICA, N.Y.

Pacific Coast Branches:
Cargo-Cowbit Co. — 538 S.W. Pine St., Portland 4, Oregon
The Cowbit Co. — 635 Brannan St., San Francisco, Cal.
Mill & Mine Supply — 1700 4th Ave., So., Seattle, Wash.

FOR INSIDE AND OUTSIDE FIRES USE

INDIAN

Clear Water

FIRE PUMPS

Volunteers Kill Blaze in 7 Minutes after Paid Men Stage 4-Hour Losing Fight

THAT the well-trained volunteer fire department can turn in a job of fire fighting which would be a credit to any paid fire fighting crew has been demonstrated many times. However, when the volunteers are able to stage a kill on a large factory fire that had baffled the paid firemen for four hours — that story is news.

The volunteer department in question is a member of the N.F.P.A. Volunteer Firemen's Section, while the paid department, unfortunately, is not. This report is printed, not to point out a bad example, but to present a lesson, and all names and places have been deleted. It demonstrates the importance of knowing the correct use of the specialized types of equipment on fires involving flammable liquids.

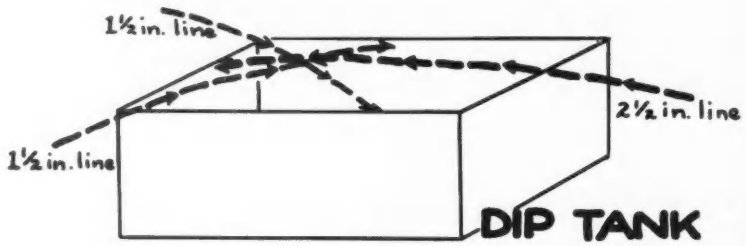
The fire occurred in the dipping department of a factory and involved two dip tanks containing wood preservative and naptha, four or five lumber piles, and an overhead crane. All power was immediately shut off and oil lines shut down. The company fire department extinguished all fire except in the two dip tanks.

These tanks were approximately 11 x 28 x 2 feet deep and 3½ x 12 x 4 feet deep. The low tank was not very full, but the 4-foot tank had approximately 1,200 gallons of naptha in it.

The local fire department started work on the fire with their foam hopper, but they either failed to connect their line to the hopper properly or something was wrong with the hopper. They produced another hopper, but they could not produce foam. The milky water action they did get appeared to cause the fire to burn more fiercely.

The chief of the paid department, who knew how to operate his equipment, was away on vacation. The chief of the local volunteer department offered the assistant paid chief the use of the volunteer department's 2½- and 1½-inch Rockwood fog nozzle with applicators.

After waiting for half an hour, the paid firemen decided to accept. The chief of the volunteer department and two of his men who had had experience in the operation of the nozzles directed them toward the dip tanks. The assistant-chief-in-charge ordered the volunteers to get off the line and let his "experienced" men apply them. The first thing they did wrong was to open the nozzle to a straight stream and hit the fire, throwing it all over the surrounding area.



Next they found the fog position and started to walk into the fire. This time they failed to hold the applicators in proper position. They further agitated the fire and though one end of the tank was no longer blazing, they failed to watch for a reflash. When that happened, they dropped their nozzles and ran. They refused to use them again or to allow the volunteer firemen to attempt to put out the fire.

Eventually the paid firemen got one of their hoppers partly working. They extinguished the fire in the 11 x 28 x 2-foot tank and started on the other which had caught fire again. Instead of laying the foam against the inside of the tank they overshot or hit the base. They gave that up and took the line onto the roof of a small building and shot the stream directly into the tank through a window, with about 120 pounds pressure. As they had a pumper hooked up to this line, the stream hit the tank well and washed fire all over the floor.

Various things were tried and a large amount of foam powder, but the proper foam was not produced until about four hours after the fire had been discovered. About that time, the president of the plant suggested that the volunteer firemen ought to have a try at the fire with their own equipment. The assistant-chief-in-charge of the paid department had said that the only thing left was to let the tank burn. The plant executive feared that the tank would burst its seams and run over the entire area, and he then requested that the volunteers take the job of attacking the fire with their own equipment.

The volunteer firemen brought in 3 Phomaire play pipes and some liquid foam. The paid assistant chief was asked to provide three lines, then the volunteer chief placed two on one end of the tank and one at the other end with criss-crossing lines so as to hit against sides of tank inside, approximately seventy pounds pressure. Two of these lines were 1½-inch and one 2½-inch. In seven minutes, including hooking play pipes and loading lines, the fire was extinguished.

Radio Pays Off at Tarrytown, N. Y.

THE 3-way radio installed on the pumping apparatus of the Riverside Hose Company No. 4 of the Tarrytown, New York, Fire Department (VF, September 1945) has already proven its value at a recent fire. The occasion was a 2½-story frame dwelling fire in the Heights section of the community and the failure of a street alarm box.

When the fire was discovered in the attic of the house, a resident on the street attempted to transmit an alarm from Box 65 located nearby. An alarm was also telephoned from the fire building, but neither alarm brought apparatus. The street box failed to transmit the right signal and although the signal on the register tapes in the engine house was jumbled, some of the companies made signal 54 out of it.

The call that came into police headquarters was also inaccurate. The police understood the call as coming from Hillside Place and were about to transmit signal 371 for that location over the headquarter's transmitter when the street box came in. Because the alarm was jumbled, two companies communicated over the direct wire to headquarters and were given the Hillside Place location. This took them about a mile to the north.

The Riverside Hose Company reported their radio "in service" on route to the Hillside location. Finding no trace of fire upon arrival, they radioed headquarters and were told that the call was being traced. As soon as it was traced, it was relayed to the Riverside Hose Company.

Despite the delay, the company was able to respond to the new location and to arrive in time to save it from destruction.

A Complete
ALARM SYSTEM
For Volunteer Fire Departments

THE GAMEWELL FIRE ALARM SYSTEM, designed especially for the smaller communities is characterized by its reliability, simplicity, low initial and maintenance costs — and Speed.

THE DIAPHONE HORN provides coded signals *directing your firemen to the scene of fire* — or your own siren or other public alarm may be utilized.

DIAPHONE HORN
Operated by Compressed Air
The Circuit is shown connected with the Electric Control Valve.

Installation is simple — we supply complete directions.

Write for new Booklet
"It Can Happen Here"

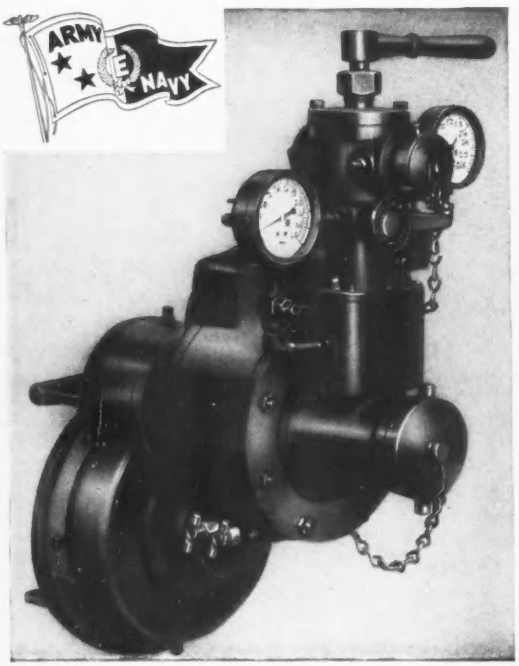
GAMEWELL FIRE ALARM BOXES
Connected In Series
In Closed Metallic Circuit

110 VOLT A.C.

GAMEWELL CONTROL UNIT
VITAGUARD SYSTEM
With Self-Winding Register — Manual Transmitter for Sounding Alarms Received By Telephone — Control Switches — Test Switches and Instruments — Batteries, Rectifiers and Line Terminals Mounted Within the Cabinet.

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts
In Canada — NORTHERN ELECTRIC CO., LTD. — Montreal

1000 Lbs. Pressure or 300 Gallons

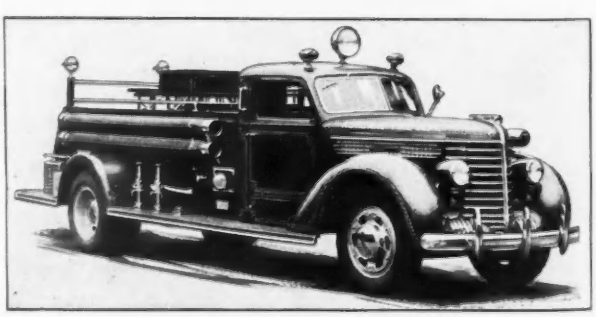


Weight only 180 lbs. Easily installed on any new truck chassis or Fire Truck now in service. Front mount gear drive off crankshaft. Because it is a centrifugal, the Champion will handle without injury, water with sand, dirt and gravel content which would damage the cylinders of piston pumps.

The NEW Front Mount Two Stage Centrifugal Champion is the ONLY Fire Pump That Gives You 300 Gallons for Standard Hose Lines or 1000 Lbs. for High Pressure Fog.

300 G.P.M. @ 150 LBS.

60 G.P.M. @ 880 LBS.



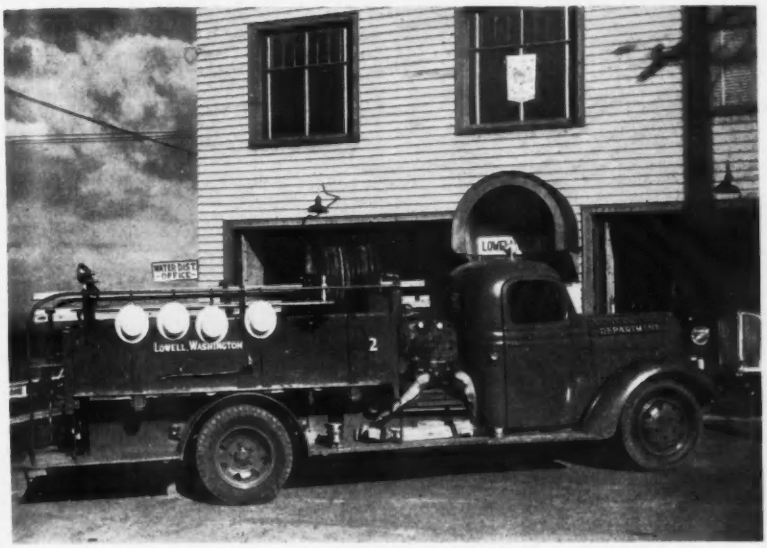
Champion Fire Trucks Available Without Priority

100 Page Catalog of Fire Equipment

FIRE TRUCKS — HIGH PRESSURE FOG PUMPS — STANDARD FIRE PUMPS — SKID PUMPERS — PORTABLE PUMPERS.

REQUEST YOUR CATALOG TODAY!

W. S. DARLEY & CO. ESTABLISHED 1908 CHICAGO 12, ILL.



From Lowell, Washington—

THE Lowell, Washington, Volunteer Fire Department protects an area of four square miles having a population of 5,000. Industries in the area include a paper mill, veneer plant, lumber mill, iron works, railroad yards, and an oil plant.

Their 3-story fire station can be seen in the illustration. The basement contains the furnace and storage room, the kitchen, dormitory, office, and recreation rooms are on the third floor, and the apparatus room is at street level.

The firemen have all had Red Cross training and the department is equipped with an inhalator, gas masks, and first aid kits.

The department has two 500-gallon pumpers, including a modern Seagrave, and a 1939 GMC truck carrying a 500-gallon skid pump (shown in the photograph).

Drills are held every Monday night. The men entertain their wives at an annual Christmas party and the firemen also sponsor dances, carnivals, and parades.

A PARODY ON BACKFIRES

XENOPHON ERETHRONOTES, member of the Spade Foot Toad Circus Dreadnaught Fire Brigade, has completely upset the company. It started at the Seth Peckham fire. Seth's house burned flat, but a bucket brigade saved the garage before the hoodangs arrived. They laid hose to a brook and began to wet down the cellar of the house. Then Xenophon wanted to stop pumping so the cellar would burn out clean and on top of that he suggested that the Spade Foot Toad Chief should set the garage afire. He figured it would save Seth a lot of trouble if nothing were left in the cellar to be cleaned out — and the garage might catch on fire when no one was around which would only mean another long line of hose to lay. The gang was all there and the hose laid, so why not save work, do a clean job and have it over with. They got into quite a wrangle, but the cellar was burned clean. No one did set fire to the garage. Still no one has a good answer for Xenophon. Some say he is a "Communist" and others trace it all back to the day he went brush fire fighting away up Fish Creek and overheard a lot the rangers said about backfires. He tried to set a fire in the rear of Perkins Grocery while the boys were working on the front; said he was "back firing" to save the next building. What can we do about Xenophon?

CHIEF PICKET,
Beaver Dam Crossing.

More about the Empire State . . . Communications between the firemen in street and those on the 78th floor of the Empire State Building were carried on by the use of the walkie-talkie radio.

International

DISCHARGED VETERAN FLAGS

Honor your discharged service men with this official War Dept. flag. Discharged veterans' emblem in gold on white field, with red border. Interchangeable numbers below show number of your men honorably discharged. Illustrated price list FREE. Many men already on their way home; get YOUR flag up NOW. Write today for prices.

***Permanent* ROLL of HONOR**

A permanent plaque, with individual names in silver on gold-bordered permanent name plates. Beautiful walnut plaque with eagle and victory torches. Write for price list today.

U. S., Allied Flags, and Service Flags in all sizes
Write for prices

REGALIA MFG. CO.
Dept. 82, Rock Island, Ill.

Save Valuable Plants & Materials

Fyr-Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasize the urgent need of fire protection. A complete line of Underwriters' Laboratories Labeled Fire Extinguishers.

HELP SAVE LIVES AND PROPERTY
Get Fyr-Fyters for safety's sake. We advise and serve manufacturing plants, public institutions, etc., immediately. Write us today regarding Fyr-Fyter equipment for your own protection.

THE FYR-FYTER CO.
DAYTON 1, DEPT. 20-10 OHIO
Fyr-Fyter

Midwestern Combination Suit

Rubber or Canvas

Standard in many Municipal Dept's

All Over America

You can buy either the coat or the pants separately or together. The coat is a highly serviceable garment as a result of rugged and superior quality throughout. Flexible elastic inner sleeve for wrist. Adjustable collar strap, detachable wool lining. Midwestern safety snaps, 2 outside pockets, 6-inch storm flap, and many other good features.

Bunker Pants

- Lining held by snap buttons
- Eight suspender buttons
- Safety snap on belt
- Wool Lining
- Reinforced adjustable belt
- Wide protecting flap
- Reinforced by rivets

Regular Fireman's Boots Available ¾ length, reinforced instep, felt linings. New synthetic rubber, not reclaimed. Write.

See your local Midwestern distributor for prices and literature, or write the factory.

MIDWESTERN MANUFACTURING CO.
MACKINAW, ILLINOIS

FEDERAL ELECTRIC COMPANY, INC.
SIREN HEADQUARTERS

How

POWER
is built into this
FEDERAL SIREN

Flashing Red Light; Chrome Finish; Single or Double Tone; Coaster Model

The tremendously powerful tone of Federal Vehicle sirens demands attention over other traffic noises, clears the way. This model has a distinctive double tone; and it coasts almost two minutes after current is off. Special clutch mechanism releases rotor; coasts much longer than so-called "long roll" types, which seldom roll over 30 seconds. Electric solenoid brake on rotor stops sound instantly. Durably built for long, dependable, maintenance-free service.

Rotors: cast aluminum, precision-machined, individually balanced. Thin, smooth blades for high efficiency.

Ports in rotor and stator accurately spaced, finished to square sharp edge; assure true pitch, powerful tone.

Motors: heavy duty; bronze or ball bearing; 6 or 12 volts.

WRITE for FREE BULLETINS

Details, illustrations, prices, on this and other FEDERAL Sirens

FEDERAL ELECTRIC COMPANY, INC.
8717 SOUTH STATE ST., CHICAGO 19, ILL.

Nekoosa, Wis., Uses Shut-off Valve on Pumper Suction

MEMBER Charles K. Herrick, of the Nekoosa, Wisconsin, Volunteer Fire Department, describes the use of a quick-action, shut-off valve on their pumper intake:

"The procedure is as follows: I took the cap off the draft tube and put the 4½ x 2½-inch reducing swivel on in its place and then attached the 2½-inch quick-action, shut-off valve to the swivel. This left the female thread on the valve exposed to take the hose from the hydrant.

"Using two men in a practice hook-up, we cut the time exactly one minute. (1) Instead of having to remove the cap from the draft tube, (2) remove swivel from its fixture on running board, (3) putting it on the hydrant (4) and connecting the 4½-inch soft suction, we simply take a 10-foot length of 2½-inch hose and connect from hydrant to 2½-inch quick-action, shut-off valve, which remains permanently on the end of draft tube, unless we want to take water by draft. Then we just remove the swivel and valve as a unit from tube, the same as removing the cap; another feature to its credit. If we get caught at a fire and the booster tank is getting low on water, we can hook up from a hydrant without shutting down and losing all the water in the pump and tube to connect the 2½-inch line.

"I wish to comment on the article in the June VOLUNTEER FIREMEN, entitled "Supplying 1½-Inch Hose Lines." This is timely information for us and will be used in our forthcoming meetings and at practice."

CHARLES K. HERRICK,
Nekoosa, Wis., Volunteer Fire Department.

New British Manual on Firemanship

THE Fire Service Department of the British Home Office has just issued a 250-page book entitled *Part 6A Practical Firemanship, Manual of Firemanship.* The book may be purchased from the British Information Services, 30 Rockefeller Plaza, New York 20, for seventy-five cents.

American firemen will find this book most interesting reading. It is well illustrated and describes all routine fire fighting operations and many specialized problems, such as rescue, ventilation, and salvage. While methods employed in the British National Fire Service differ considerably from those taught by American fire schools, the publication is well worth the attention of any fireman.

DO YOU REMEMBER

YOUR CO-OPERATION IN OUR POST WAR PLANNING

AMERICAN-LAFRANCE
DESIGN
AMERICAN LAFRANCE FOAMITE
SYMPOSIUM
★ ON MOTOR FIRE APPARATUS
★ AT 70th ANNUAL I. A. F. C. CONFERENCE
★ AUG. 31 - SEPT. 1, 2, 3, 1943 - CHICAGO, ILL., U.S.A.

Leadership requires a practical incorporation of your ideas and suggestions into an effective piece of fire fighting equipment.

American LaFrance designs for the new post war line of fire apparatus are all based on the many suggestions and ideas you have provided from your own practical experience. Watch for the announcement of the new Post War American-LaFrance fire engines.

AMERICAN-LAFRANCE-FOAMITE CORPORATION

ELMIRA, NEW YORK, U. S. A.

LAFRANCE FIRE ENGINE and FOAMITE LIMITED

TORONTO, 9, ONTARIO, CANADA

6 of 70 MASTERLIGHTS

MASTER★LIGHTS FOR EVERY NEED

The best in colored oscillating lights for your motor equipment.

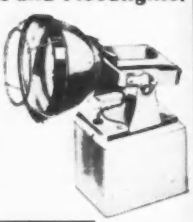
Type 06

Clears Both Sides of Street

Featherweight, Mile Range, Rechargeable Hand Searchlights and Floodlights.

Type WS

Uses Small Rechargeable Battery Mile Range



Type Dul

Emergency Floodlight For Theatres, Road Houses, etc.

Types F5 and Super-6

Dry and Rechargeable Units. ¾ Mile Range

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Roof mounted Officers Searchlight 360°

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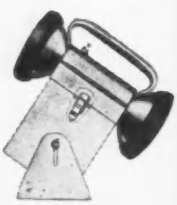
Two-Way. Hand and Red Warning Light



CARPENTER MFG. CO.

168 MASTER ★ LIGHT ★ BLDG.

BOSTON 45, MASS.

22 Dead in Dust Explosion Port Arthur, Ontario

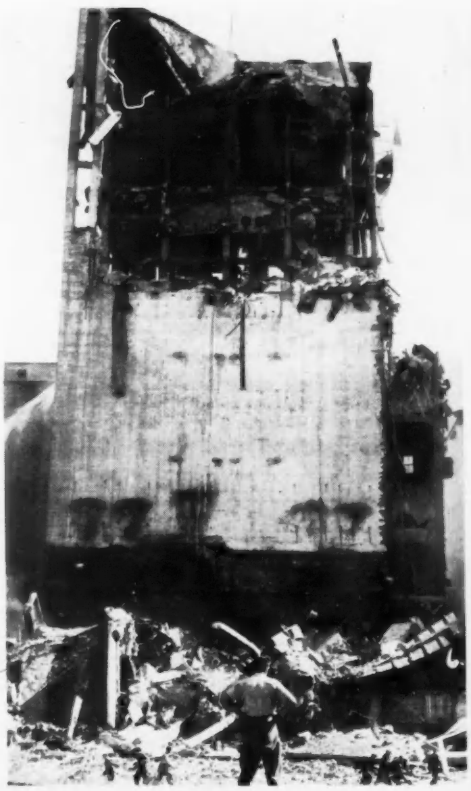
A DUST explosion, the terror of old-fashioned terminal grain elevators, wrecked the headhouse of the Number 5 elevator of the Saskatchewan Wheat Pool Terminal at Port Arthur, Ontario, on August 7. Twenty-two men lost their lives as a result of the terrific blast which shook the entire community at 10:37 A.M.

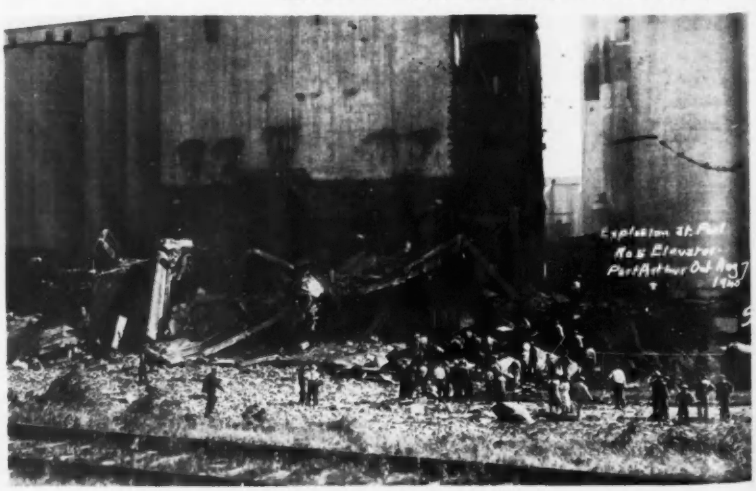
The explosion was admittedly caused by grain dust, but just what touched it off has not been determined.

A general alarm brought out the entire Port Arthur Fire Department under Chief George Chastey and help was immediately called from Fort William. Port Arthur firemen responded with two pumpers, a service ladder truck, and a hose and booster combination. Fort William firemen made the four-mile run with an 800 g.p.m. (Imperial gallons) pumper and a new 75-foot American LaFrance aerial.

Lines were siamesed into deluge sets to throw streams to the top of the wrecked elevator.

There is no information as to the age of this re-inforced, concrete structure, but it obviously lacked the dust explosion safeguards recommended by the N.F.P.A. Code for Terminal Grain Elevators, originally adopted in 1925, and kept up to date. (also published by the U.S. Bureau of Labor Statistics). This Code, covering safety features such as structural safety, ventilation, elevator equipment, grain dryers, dust removal was prepared by the N.F.P.A. Committee on Dust Explosion Hazards, then under the chairmanship of past president David J. Price, U. S. Department of Agriculture, leading authority on dust explosion prevention.





TRADE MARK

C-O-TWO

REG. U.S.

Protects MILLION DOLLAR MACHINES against fire!

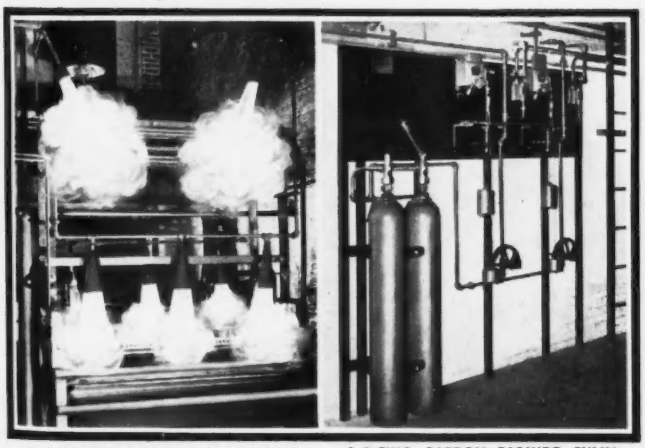
DIPPING TANK, ROLLERS AND IMPREGNATING MACHINE PROTECTED BY TEN C-O-TWO DISCHARGE NOZZLES AND TWO HEAT DETECTORS. AUTOMATIC "RATE-OF-RISE RELEASE" AT CONGOLEUM-NAIRN, INC., KEARNY, NEW JERSEY.

IN the vast plant of Congoleum-Nairn, Inc., in Kearny, New Jersey, equipment valued at over a million dollars is protected from fire by C-O-TWO installations.

Huge dipping tanks, rolling and fabric impregnating machines filled with highly flammable oils, lacquers and resins operate under the safe, sure and constant protection of C-O-TWO automatic fire extinguishing carbon dioxide systems. Under such critical conditions, the fastest, safest, most effective method for killing fire is imperative, and Congoleum-Nairn, Inc., has, as have the Armed Forces and hundreds of other plants and manufacturing concerns throughout the country, selected C-O-TWO to give instantaneous and maximum protection to valuable equipment and personnel.

C-O-TWO heat actuated detectors operating on the rate-of-rise principle guard this valuable equipment night and day. They never sleep. Any sudden rise in temperature, in a protected area, causes these devices to set off the C-O-TWO system. Automatically, the operation of that particular machine is shut off, and volumes of sub-zero fire-killing carbon dioxide gas are discharged from the strategically placed nozzles, and the fire is extinguished in seconds without damage to equipment or materials.

C-O-TWO fire extinguishing systems may be arranged to protect one or a series of spaces from the same battery of cylinders. C-O-TWO also manufactures a complete line of carbon dioxide Portables, Hose Reel, Wheeled Type units and Smoke Detecting Systems. Write for information.



FABRIC IMPREGNATING MACHINE DIPPING TANK AND ROLLERS PROTECTED BY C-O-TWO AUTOMATIC SYSTEM. HEAT DETECTOR FOR AUTOMATIC "RATE-OF-RISE RELEASE" IS LOCATED BETWEEN CENTER DICHARGE NOZZLES. CONGOLEUM-NAIRN, INCORPORATED.

C-O-TWO CARBON DIOXIDE CYLINDERS PROTECTING TWO FABRIC IMPREGNATING MACHINES. PNEUMATIC SWITCH AT RIGHT AUTOMATICALLY SHUTS OFF VENTILATION, STOPS MACHINE ON FIRE, AS CARBON DIOXIDE GAS IS RELEASED.

C-O-TWO Kills Fire
Saves Lives and Property

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NEWARK 1 NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

Barton-American Front Mounted

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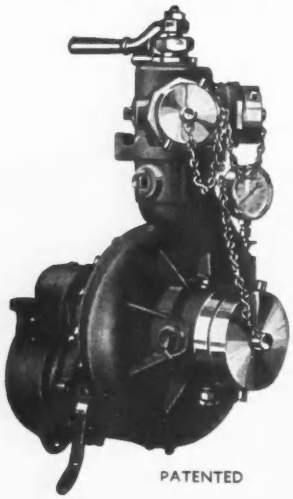
FIRE APPARATUS CENTRIFUGAL PUMPS



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FRONT MOUNTED FOR EASE OF OPERATION

AUTOMATIC VACUUM PRIMER

HIGH PRESSURE AT LOW ENGINE SPEED

BOOSTER TANK OPERATION WITH TRUCK IN MOTION

Offered in capacities from 250 to 600 G.P.M.

AMERICAN-MARSH PUMPS, INC., Battle Creek, Michigan

Pumps — and pumps only — since 1873

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FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION

6339 East Palmer Avenue

DETROIT 11, ·:· MICHIGAN

"Half-Mile-Ray"

Portable Emergency Lights

STORAGE Battery and Dry Cell Outfits for all types of service. Also Spotlights for cab mounting on vehicles.

Send for Catalog "V"

THE PORTABLE LIGHT CO., INC.

216 William St., New York 7, N. Y.

New Minneapolis Fire Chief

GEORGE LOCKHART, member of the N.F.P.A. Committee on Firemen's Training, has been appointed chief of the Minneapolis Fire Department. Chief Lockhart has formerly served as drillmaster with the department.

Chief Named "Man of the Year"

FIRE CHIEF E. L. "Pete" Mathews, of Tuscaloosa, Alabama, was recently honored with the Civitan Club Citizenship Award for outstanding service to his city. Chief Mathews has spent twenty-five years with the Tuscaloosa Fire Department. He was named assistant chief in 1923, and was promoted to chief in 1931. Since that time, his city has placed first for six consecutive years in fire prevention records.

Chief Mathews is a past director of the International Fire Chiefs' Association, past president of the Southeastern Fire Chiefs' Association, chairman of the Board of Directors of the Alabama State Fire College, and a member of the N.F.P.A.

Sentinel, New FIA Magazine for Industrial Fire Safety

LAST August the Factory Insurance Association with headquarters at Hartford, Connecticut, issued Volume 1, No. 1, of a new magazine entitled *Sentinel*. The first issue is devoted to a description of the Factory Insurance Association and its nation-wide fire protection service for industries. It is planned to include in the publication a forum for industrial fire protection problems. The editor is William R. Ford, Director of Information for FIA, with offices at 85 John Street, New York, N.Y

U. S. Labor Department Issues Bulletin on Ammonia

ALL too often firemen have the unpleasant experience of tangling with high concentrations of ammonia both at fires and in accidents involving the leakage of refrigeration equipment. The U. S. Department of Labor has issued a bulletin entitled *Ammonia*, first of a series devoted to controlling chemical hazards. The cover of the bulletin contains the warning, "Exposure to high concentrations due to accidents or carelessness may burn, blind, strangle, kill." A supply of up to twenty-five copies will be distributed without charge upon request to the Division of Labor Standards as long as the free supply lasts. All fire departments should request copies of this twelve-page bulletin.

FIRE APPARATUS • CUSTOM BUILT

By

OREN

"THE SOUTH'S ONLY FIRE TRUCK MANUFACTURER"

MODERNIZES ANOTHER DEPARTMENT WITH A CUSTOM BUILT UNIT

This Custom-built OREN is a triple combination pumper with a 500 G.P.M. Hale Centrifugal pump, 200 gallon booster tank, fog equipment and other modern equipment. This unit built to meet the exact needs of and delivered to Boulevard Heights Volunteer Fire Department of Prince Georges County, Maryland, Washington, D. C.

EACH TRUCK IS BUILT AND DESIGNED TO MEET THE INDIVIDUAL NEEDS OF THE PURCHASING FIRE DEPARTMENT

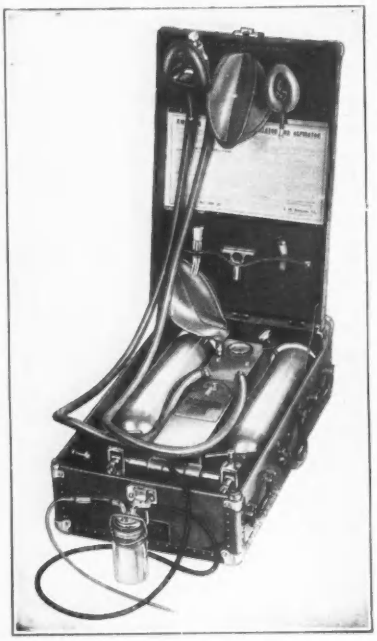
ARMY E NAVY

OREN FIRE APPARATUS COMPANY

1201-9 West Salem Avenue, Roanoke, Virginia

TANKERS • • • • PUMPERS

TAKE NO CHANCES WITH ASPHYXIA!



When breathing stops, on account of smoke suffocation, electric shock, gas poisoning, drowning, or other asphyxia, you should have the best life-saving apparatus available. You owe this to your men and to the citizens of your community. Investigate the

EMERSON RESUSCITATOR

•

Write for literature or a demonstration.

J. H. EMERSON CO.
24 Cottage Park Ave., Cambridge, Mass.
Representatives in Principal Cities

N. F. P. A. Volunteer Firemen's Section
MEMBERSHIP REPORT

MEMBERSHIP PLAN

- Through the Volunteer Firemen's Section, fire companies may become members of the National Fire Protection Association. As a member fire company, the department receives at headquarters a set of all regular N.F.P.A. publications. This includes the Quarterly, the monthly News Letter, posters and bulletins.
- Each member fire company has the Volunteer Firemen magazine sent to the homes of ten men at no extra charge beyond the ten dollars annual dues paid by all associate members of the N.F.P.A. All other N.F.P.A. members pay ten dollars without the ten copies of Volunteer Firemen.
- If more than ten firemen want to receive Volunteer Firemen, an additional dollar should be sent for each extra fireman listed to receive the magazine. Individual subscriptions are not accepted from departments not members of the N.F.P.A.

THIRTY new member fire departments this month bring the total membership in the N.F.P.A. Volunteer Firemen's Section to 1,282 companies. This is one of the largest groups to come into the Section in one month. The list of new members is as follows:

Petersburg Volunteer Fire Dept., Alaska
Falls Village Volunteer Fire Dept., Falls Village, Conn.
Dunedin Fire Dept., Dunedin, Fla.
West Palm Beach Fire Dept., West Palm Beach, Fla.
Dallas Volunteer Fire Dept., Dallas, Ga.
Farmington Fire Dept., Farmington, Ill.
Glenview Volunteer Fire Co., Glenview, Ill.
St. Matthews Volunteer Fire Dept., Louisville 7, Ky.
Brentwood Volunteer Fire Dept., Brentwood, Md.
Granby Volunteer Firemen's Association, Granby, Mass.
Akron Village Fire Dept., Akron, Mich.
Armada Fire Dept., Armada, Mich.
Winthrop Volunteer Fire Dept., Winthrop, Minn.
Scobey Volunteer Fire Dept., Scobey, Mont.
Ravenna Volunteer Fire Dept., Ravenna, Nebr.
Oceanville Volunteer Fire Co., Absecon, N. J.
Lordsburg Volunteer Fire Dept., Lordsburg, N. M.
Hose Company No. 1, Catskill, N. Y.
Glenwood Hook & Ladder, Engine & Hose Co., Inc., Glenwood Landing, N. Y.
Roslyn Highlands Hook & Ladder, Engine & Hose Co., Roslyn Heights, N. Y.
River Road Volunteer Fire Co., Tonawanda, N. Y.
East Lansdowne Fire Co. No. 1, East Lansdowne, Pa.
New Salem Volunteer Dept., New Salem, Pa.
Newportville Fire Co., Newportville, Pa.
Oscoluwa Engine & Hose Co., Troy, Pa.
Citizens Fire Co., Vera Cruz, Pa.
Springfield Fire Dept., Springfield, S. D.
Milltown Volunteer Fire Dept., Milltown, Wis.
Oconomowoc Fire Dept., Oconomowoc, Wis.
Estvan Fire Dept., Estvan, Sask, Can.

N.F.P.A. on the Air

INITIATING Fire Prevention Week with a broadcast, four members of the N.F.P.A. executive office appeared on the Yankee Network program "Quiz of Two Cities," Station WNAC, in Boston, on October 5.

The quiz consists of weekly correct-answer competitions between Boston and Providence, Rhode Island, teams. Opposing the N.F.P.A. quartet were four members of the Providence Fire Department, N.F.P.A. members.

General Manager Percy Bugbee headed the Boston team.

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600 LBS. GUN PRESSURE!

FIGHT FIRES THE MODERN WAY WITH FMC HIGH-PRESSURE FOG

YOU GET ACTION — FAST! *This small town hotel is typical of the type of structures to be found in rural communities. Many are located far away from water supplies — far away from low-pressure pumpers. As the FMC High-Pressure Fog Fire Fighter travels fast and carries its own water supply, it knocks down a fire quickly.*

YOU GET THE REAL "BLASTING" FIRE-KILLING FOG WITH THE FMC HIGH-PRESSURE FOG FIRE FIGHTER

In fighting fire with fog — *you must have high pressure.* And that's what you get with the FMC Fog Fire Fighter.

The FMC High-Pressure Pump easily delivers and maintains *800 lbs. pump pressure*—better than *600 lbs. nozzle pressure.*

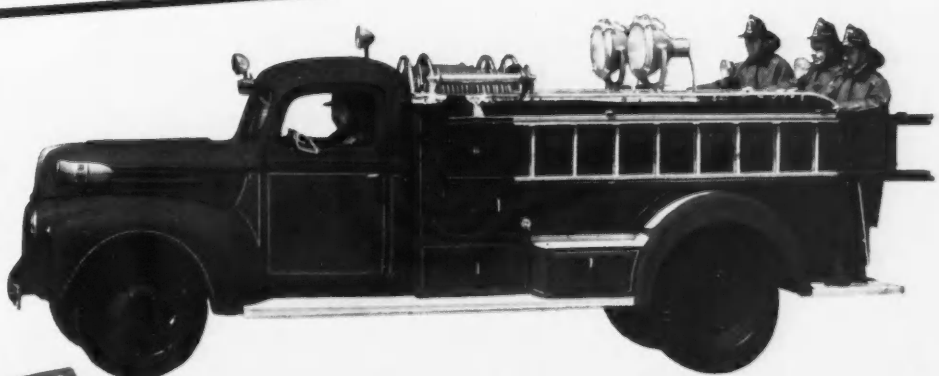
This high pressure gives you a combination of high velocity and finely-atomized fog — just what you need to *cool* and *smother* flame. Every droplet of water is broken up into thousands of tiny particles that can be *"blasted"* into the source of the fire.

One gallon of this finely-atomized fog—properly used—has the fire-quenching possibilities of many times that of low-pressure water.

Investigate! Get the facts about this new and revolutionary fire-fighting technique.

RESTRICTIONS LIFTED! It's not a bit too early to start plans for the modernization of your department. FMC High-Pressure Fog Fire Fighters already ordered are now being delivered. Orders placed can well insure early delivery.

ONLY THE FMC HIGH-PRESSURE FOG FIRE FIGHTER PACKS THE NEEDED PUNCH TO PRODUCE AND MAINTAIN 800 LBS. PUMP PRESSURE — 600 LBS. GUN PRESSURE. INVESTIGATE! THERE'S NOTHING ELSE LIKE IT!



STANDARD FMC FOG FIRE FIGHTER. *A self-contained fire-fighting unit. Carries its own water supply and complete fire-fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure. Tested and proved at hundreds of town, rural and airport fires.*

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO. 726 HAZEL ST., LANSING 4, MICH. : BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

IT'S NOT TOO EARLY TO PREPARE FOR WINTER

Place your orders NOW for Warm Waterproof Turnout Coats and Trousers, Fleece-Lined Rubber Coats, Rubber Boots, Felt-Lined Boots, Woolen Mittens, Face Shields, and — above all — for the ever-reliable

CAIRNS HELMETS

in Leather, Aluminum or Flint-Flex, with ear laps and neck protectors and the famous CAIRNS CUSHION LINING. Everything you need for winter is ready for prompt shipment, from America's oldest firm of firemen's outfitters. Write for Catalog 131.

In Regulation or Drop Brim Style.

CAIRNS & BROTHER

Outfitters to Firemen Since 1836

444 LAFAYETTE STREET, NEW YORK 3, N. Y.

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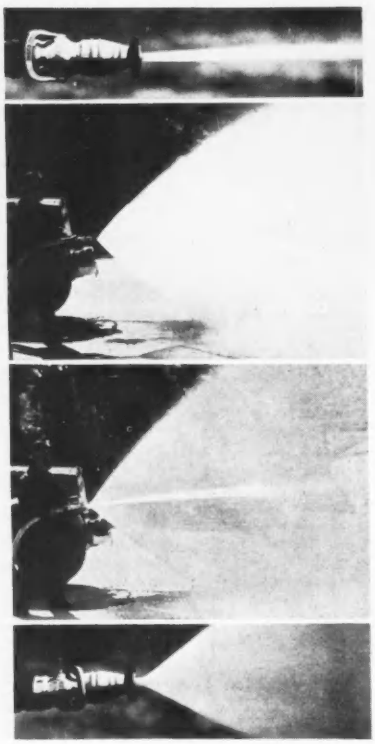
MANUFACTURERS' ANNOUNCEMENTS

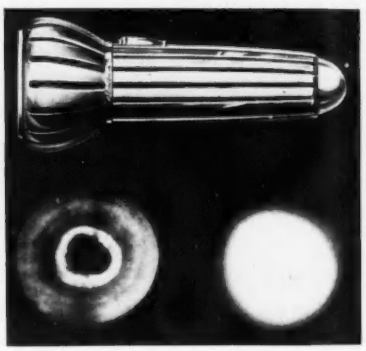
THE George E. Sleeper Company, 2608 9th St., Berkeley 2, Calif., has issued a 4-page illustrated bulletin describing The Riepling Universal Nozzle for both fog and solid stream, operated simultaneously or separately. The 1½-inch hose size provides, as wanted, a ½-inch solid stream, a solid stream with a 130 degree water curtain, a 130 degree water curtain without the solid stream, or a 60 degree fog. The bulletin gives the nozzle pressure and discharge for each type of stream and includes a graph showing the discharge curves at varying pressures for each type of stream.



The nozzle has a shut-off handle marked "open" and "closed" similar to that on regular straight stream nozzles. It employs a sealing member which does not leak thus eliminating troublesome packing glands. There are individual shutoffs for straight stream and fog. Good fogs are available at pressures as low as 90 pounds. The fog discharge is variable in size from only one foot in diameter and one G.P.M. to a complete curtain of approximately thirty feet in diameter and 52 G.P.M. with perfect fog at all degrees on 90 to 130 pounds nozzle pressure. The solid stream tapered waterway has a smoothly polished surface which insures a perfect stream with unusual reach. In addition to the 1½-inch hose size, the nozzle is also available for 1-inch and 2½-inch hose.

New Light Reflector Eliminates Dark Spot

A LIGHT reflector of entirely different design is announced by the General Detroit Corp. and the General Pacific Corp. By means of a new principle of light reflection, it eliminates the "dark spot" produced by conventional reflectors. Called the Diamond Facet Reflector, it is made for use in flashlights, searchlights, lanterns, spotlights, and floodlights of all sizes and types. A special flashlight called "Floodbeem," which incorporates the new reflector, is also being marketed by the two corporations.



The Diamond Facet Reflector's design makes use of the fact that nothing reflects light like a diamond. In place of a smooth wall finish which causes light beams to clash with one another, this reflector has a surface broken into multiple diamond shapes to reflect all of the light.

The unretouched photograph shows how the conventional "dark spot" is eliminated. The circle on the left, made by a flashlight with an ordinary smooth-wall reflector, has a spot in the center. The one on the right, made by a "Floodbeem" flashlight is pure white light all over.

Further information on "Floodbeem" flashlights and Diamond Facet Reflectors may be secured by writing the General Detroit Corp., 2270 East Jefferson Ave., Detroit 7, Mich., or the General Pacific Corp., 1800 South Hooper St., Los Angeles 21, Calif.

"Cold" Christmas Tree Lights Will Reduce Fire Hazard

FLUORESCENT lights for decorating Christmas trees have been developed by Sylvania Electric Products, Inc., of New York. These lights which not only illuminate the tree, but also make it glow should reduce the fire hazard occasioned by ordinary tree lighting as these new fluorescent lamps burn cool and thus retard drying up the tree.

AKRON

UNIVERSAL THREAD ADAPTER

No apparatus is completely efficient without this Akron Adapter. Eliminates delay in making connections. Merely push handles together and the connection is made. Adjustable jaws on face make it possible to connect with any other hydrant thread of the same water way diameter regardless of differences in thread pitch. Capable of withstanding pressure to 600 pounds, assuring a good leak proof joint. Connection may be made to any male thread regardless of number of threads per inch or thread diameter within limits of cam movement. No turning or wrenches necessary. Made of bronze. Mechanically constructed to stand up under the most severe service.

Illustration shows Style 575 with three jaws of adapter in semi-open position ready to engage with any male thread.

AKRON BRASS MFG. CO. INC. ★ WOOSTER, OHIO

AKRON BRASS

FIRE FIGHTING EQUIPMENT

Yes, the Kidde Water Extinguisher eliminates the fuss and bother of annual recharging. It gets its power—not from the reaction of chemicals that may deteriorate—but from a *hermetically sealed* cartridge of carbon dioxide that retains its full water-propelling efficiency for years... and when used does no more harm than water.

And when recharging *is* needed, after use, it's a quick, safe, simple operation. No chemicals to handle... no risk of acid burns. Just refill with water and slip in a replacement cartridge!

For locations where low temperatures are encountered, the Kidde Anti-Freeze Extinguisher — identical in construction with the Water Extinguisher — offers the same freedom from need of annual recharging, *plus* ability to function at temperatures as low as —40° F.

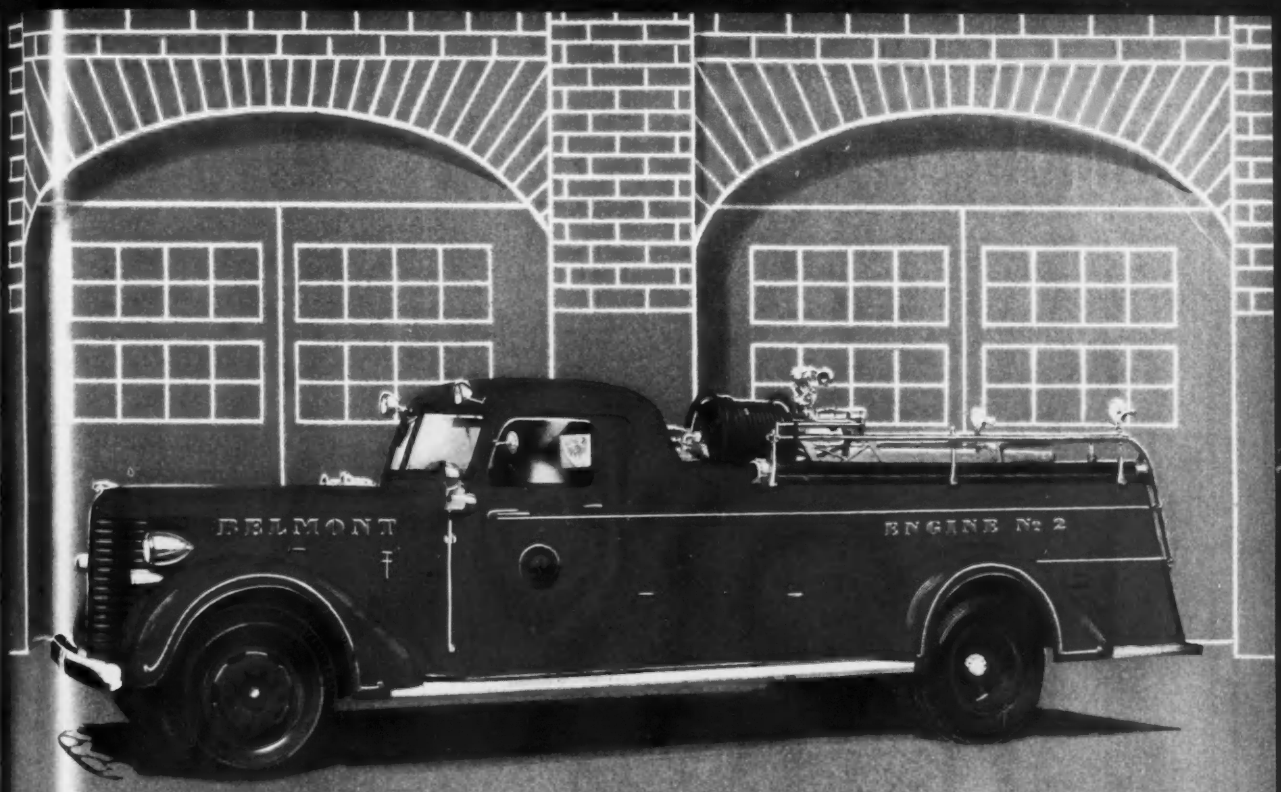
Get the facts *today* on Kidde Water Extinguisher and Anti-Freeze Extinguishers.

Walter Kidde & Company, Inc.
1056 Main Street, Belleville 9, New Jersey

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

Kidde

THIS ADVERTISEMENT IS ONE OF A SERIES APPEARING CURRENTLY IN INDUSTRIAL PUBLICATIONS



Buffalo Type 750 G.P.M. Triple Combination recently delivered to the city of Belmont, Mass.

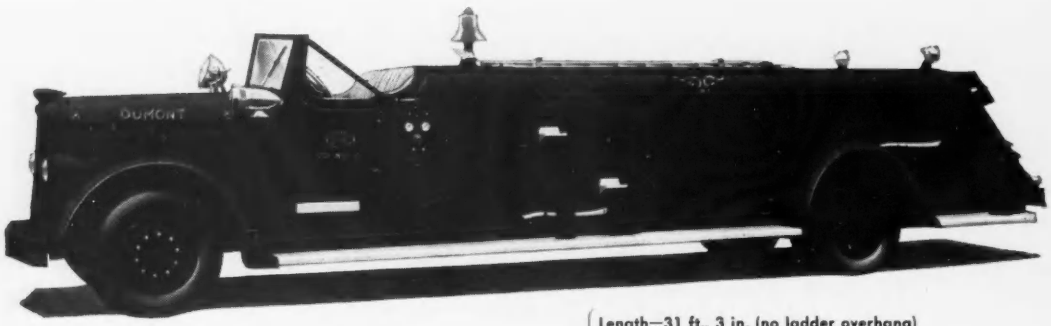
BUFFALO
better-built
SAFE
CLEAN STREAMLINED BODIES

1895-1945
GOLDEN ANNIVERSARY
50 Years of Service

BUFFALO FIRE APPLIANCE
CORPORATION

M & T BUILDING BUFFALO 2 NEW YORK

Dumont, N. J. Picks WARD LA FRANCE



Above

Quadruple Ladder Truck recently delivered to Dumont, New Jersey

Length—31 ft., 3 in. (no ladder overhang)
Weight—15,340 lbs.
Wheelbase—242½ in.
Engine—6 cyl. Ward La France, 150 H.P.
Pump—500 G.P.M., 2 stage Centrifugal
Booster Tank—150 gals.
Hose Reel (Rear)—Capacity 250 ft. ¾ in. hose or 150 ft. 1 in. hose

The specific needs of Dumont differ from those of New York City, Pittsburgh, Washington or Minneapolis...All are Ward La France customers, because they have the same *basic* requirement...sound engineering, maximum performance ability... and absolute dependability. Write our sales department, outlining your particular requirements and special local conditions. Our engineering department, backed by 26 years of experience and progress, is at your command without obligation.

WARD LA FRANCE

WARD LA FRANCE TRUCK DIVISION
GREAT AMERICAN INDUSTRIES, INC.

ELMIRA GAI NEW YORK

New York Factory Branch, 139th Street and Bruckner Boulevard, New York City